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The Principle of Co-operation in the Law of International Watercourses

By

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I, Maria Manuela de França Dória Farrajota Luciano Koberwein, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

To my beloved parents

ABSTRACT

In international law, co-operation is a general concept applied in a variety of contexts. In the context of the law of international watercourses, the general obligation to co-operate and the procedural rules it comprises have a crucial rôle to play in the implementation of the substantive principles of equitable and reasonable utilisation and of diligent prevention of transboundary harm. The problems lie in the identification of the scope of the obligation, its specific content, legal status and application.

The principal objective pursued in this thesis is to present a detailed examination of the nature, scope, specific content, application, and consequences of non-compliance with the obligation to co-operate in the particular context of the law of international watercourses, in order to contribute to the clarification of this vague but fundamental principle. To illustrate how the theories relating to the obligation to co-operate on international watercourses can be translated into concrete acts, several examples are provided, including planned works in a basin State such as dams.

Due to the variety and the nature of the issues involved in the context of international watercourses, an interdisciplinary approach was adopted between law and geography. This approach permits the sharing of insights and information, and a better understanding of several technical questions presented to the international lawyer when dealing with international watercourses.

The thesis finally presents conclusions regarding the evolution and consolidation of the principle of co-operation, and assesses the feasibility of constructing and securing wider acceptance for a model of co-operation and the potential utility of such a model.

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Table of Abbreviations and Acronyms

AJIL	American Journal of International Law
Agenda 21	Comprehensive program of action adopted by UNCED concerning problems that affect the global and local environment
BP	World Bank Procedure
BYIL	British Yearbook of International Law
CBD	Convention on Biological Diversity
CE	Council of Europe
CETS	Council of Europe Treaty Series
CTS	Consolidated Treaty Series, edited and annotated by Clive Parry
DDP	Dams and Development Project, UNEP
EC	European Communities
EIA	Environmental Impact Assessment
ENVSEC	Environment and Security Initiative, OSCE, UNDP and UNEP
EU	European Union
FAO	Food and Agriculture Organisation, UN Specialized Agency
GAOR	Official Records of the General Assembly, UN
GEF	Global Environment Facility
GIWA	Global International Waters Assessment, UNEP
GWP	Global Water Partnership
ICJ Reports	International Court of Justice, *Reports of Judgments, Advisory Opinions and Orders*
ICJ	International Court of Justice
ICOLD	International Commission on Large Dams
IDI	Institut de Droit International/Institute of International Law
ILA	International Law Association
ILC	International Law Commission
ILC Report	Report of the International Law Commission
ILM	*International Legal Materials*, American Society of International Law
ILR	*International Law Reports* (continuation of the *Annual Digest*)
ITLOS	International Tribunal for the Law of the Sea
IUCN	International Union for Conservation of Nature and Natural Resources/World Conservation Union
LNTS	League of Nations Treaty Series
MRC	Mekong River Commission
NGO	Non-Governmental Organization

OJ	Official Journal of the European Communities
OP	Operational Policy of the World Bank
OSCE	Organization for Security and Co-operation in Europe
PCA	Permanent Court of Arbitration
PCCP	From Potential Conflict to Cooperation Potential, WWAP
PCIJ	Permanent Court of International Justice
RdC	Recueil des cours de l'Académie de Droit International de la Haye/Collected Courses of the Hague Academy of International Law
RIAA	United Nations, *Reports of International Arbitral Awards*
SADC	Southern African Development Community
SEA	Strategic Environmental Assessment
UN	United Nations
UNCED	United Nations Conference on Environment and Development ('Earth Summit'), Rio de Janeiro, Brazil, June 1992
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNECA	Economic Commission for Africa, UN
UNECE	Economic Commission for Europe, UN
UNEP	United Nations Environment Programme
UNESCAP	Economic and Social Commission for Asia and the Pacific, UN
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGA	United Nations General Assembly
UNTS	United Nations Treaty Series
UKTS	United Kingdom Treaty Series
WCD	World Commission on Dams
WFD	EC Water Framework Directive
World Bank	International Bank for Reconstruction and Development
WSSD	World Summit on Sustainable Development, UN, Johannesburg, South Africa, September 2002
WWAP	World Water Assessment Programme, UNESCO
WWC	World Water Council
WWDR	World Water Development Report, 2003
WWDR2	Second World Water Development Report, 2006
WWF	World Water Forum
Yrbk IDI	*Yearbook of the Institute of International Law/Annuaire de l'Institut de Droit International*
Yrbk ILC	*Yearbook of the International Law Commission*
ZACPLAN	Action Plan for the Environmentally Sound Management of the Common Zambezi River System

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[1] Most water treaties may be found online. Search, for example, the FAOLEX database at http://faolex.fao.org/faolex/index.htm, the International Freshwater Treaties Database at http://www.transboundarywaters.orst.edu/projects/internationalDB.html, or selected documents at http://www.internationalwaterlaw.org/.

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http://ocid.nacse.org/qml/research/tfdd/toTFDDdocs/162ENG.htm

1980 **ILA Belgrade Articles** on the Relationship of International Water Resources with Other Natural Resources and Environmental Elements Basin, approved by the ILA at its Belgrade session in 1980, *Report of the Fifty-Ninth Conference, Belgrade, 1980*, London (1982), 373-393

1980 Fishing Regulation Applicable in the International Section of the River Minho, with Annex, signed at Madrid, on 3 December 1980; 1319 UNTS (1983), 66

1982 ILA Montreal Rules on Water Pollution. 'Rules on Water Pollution in an International Drainage Basin' adopted by the ILA at its Montreal session in 1982, *Report of the Sixtieth Conference, Montreal, 1982*, London (1983), 533-548

1982 UNCLOS. United Nations Convention on the Law of the Sea, concluded in Montego Bay, Jamaica, on 10 December 1982; 157 signatories; in force 16 November 1994; 155 Parties (154 States and the European Community); 21 *ILM* (1982), 1261; http://www.un.org/Depts/los/convention_agreements/texts/unclos/UNCLOS-TOC.htm

1982 Schwebel's Third Report. ILC Special Rapporteur Stephen M. Schwebel, Third Report on the Law of the Non-Navigational Uses of International Watercourses; *Yrbk ILC* [1982], Vol.II, Pt.1, 65-197

1983 Evensen's First Report. ILC Special Rapporteur Jens Evensen, Second Report on the Law of the Non-Navigational Uses of International Watercourses; Doc.A/CN.4/367; *Yrbk ILC* [1983], Vol.II, Pt.1), 155-194

1983 Agreement between South Africa, Swaziland and Mozambique relative to the Establishment of a **Tripartite Permanent Technical Committee**, signed at Pretoria, on 17 February 1983; FAO (1997), 76

1984 Evensen's Second Report. ILC Special Rapporteur Jens Evensen, Second Report on the Law of the Non-Navigational Uses of International Watercourses; Doc.A/CN.4/381; *Yrbk ILC* [1984], Vol.II, Pt.1, 101-127

1984 Cabora Bassa Project Agreement. Agreement between Portugal, Mozambique, and South Africa relative to Cabora Bassa Project, signed at Cape Town, on 22 May 1984; FAO (1997), 78

1985 Convention for the Protection of the Ozone Layer, concluded in Vienna, on 22 March 1985; 28 signatories; in force 22 September 1988 (191 Parties); 1 UKTS (1990), Cmd 910; 1513 UNTS (1988), 324; 26 *ILM* (1987), 1529;
http://www.unep.ch/ozone/pdfs/viennaconvention2002.pdf

1986 ILA Seoul Rules. 'Rules on International Groundwaters', approved by the ILA at its Seoul session in 1986, *Report of the Sixty-Second Conference, Seoul, 1986*, London (1987), 251-274; and

1986 ILA Seoul Complementary Rules. 'Complementary Rules applicable to International Water Resources', *ibidem*, 275-294

1986 McCaffrey's Second Report. ILC Special Rapporteur Stephen McCaffrey, Second Report on the Law of the Non-Navigational Uses of International Watercourses; Doc.A/CN.4/399 and Add. 1 and 2; *Yrbk ILC* [1986], Vol.II, Pt.1, 87-144

1986 Lesotho Highlands Water Project. Treaty on the Lesotho Highlands Water Project between Lesotho and South Africa, signed at Maseru, on 24 October 1986; FAO (1997), 172

1986 Convention on Early Notification of a Nuclear Accident, adopted at Vienna, on 26 September 1986; 70 signatories; in force 27 October 1986; 101 Parties; 1439 UNTS (1986), 27625 *ILM* (1986), 1370

1987 McCaffrey's Third Report. ILC Special Rapporteur Stephen McCaffrey, Third Report on the Law of the Non-Navigational Uses of International Watercourses; Doc.A/CN.4/406 and Add.1 and 2; *Yrbk ILC* [1987], Vol.II, Pt.1, 15-46

1987 UNEP EIA Guidelines. Guidelines on Goals and Principles of Environmental Impact Assessment, UNEP Resolution GC14/25

1987 Agreement on Co-operation on Management of Water Resources in the Danube Basin between Germany and the European Economic Community, on the one hand, and Austria, on the other, signed at Regensburg, on 1 December 1987; in force 1 March 1991; OJ L 90, 5.4.1990, 20-25

1987 ZACPLAN. Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System (Botswana, Mozambique, Tanzania, Zambia and Zimbabwe, signed at Harare, Zimbabwe, on 28 May 1987; entered into force 28 May 1987; 27 *ILM* (1988), 1109; FAO (1997), 84

1988 McCaffrey's Fourth Report. ILC Special Rapporteur Stephen McCaffrey, Fourth Report on the Law of the Non-Navigational Uses of International Watercourses; *Yrbk ILC* [1988], Vol.II, Pt.1, 209-214

1989 McCaffrey's Fifth Report. ILC Special Rapporteur Stephen McCaffrey, Fifth Report on the Law of the Non-Navigational Uses of International Watercourses; *Yrbk ILC* [1989], Vol.II, Pt.1, 91-136

1989 Fourth ACP-EEC Convention of Lomé, signed at Lomé, on 15 December 1989; OJ L 229, 17.8.1991, 3–280; 29 *ILM* (1990), 783

1991 Espoo Convention. Convention on Environmental Impact Assessment in a Transboundary Context, concluded at Espoo, Finland, on 25 February 1991; 30 signatories; in force 10 September 1997; 41 Parties (40 States and the European Community); Doc.E/ECE/1250, 1991; 1989 UNTS (1997), 309; 30 *ILM* (1991), 802

1992 Helsinki Watercourses Convention. Convention on the Protection and Use of Transboundary Watercourses and International Lakes, adopted in Helsinki, Finland, on 17 March 1992; 26 signatories; in force 6 October 1996; 36 Parties (35 States and the European Community); Doc.ENVWA/R.53 and Add.1; 1936 UNTS (1996), 269; 31 *ILM* (1992), 1312; http://www.unece.org/env/water/pdf/watercon.pdf

1992 Industrial Accidents Convention. Convention on the Transboundary Effects of Industrial Accidents, adopted in Helsinki, on 17 March 1992, and signed on 18 March 1992; 27 signatories; in force 19 April 2000; 37 Parties (36 States and the European Community); Doc.ENVWA/R.54 and Add.1; 2105 UNTS (2000), 457; 31 *ILM* (1992), 1330

1992 Dublin Statement on Water and Sustainable Development, adopted at the International Conference on Water and the Environment (ICWE) in Dublin, Ireland, on 31 January 1992

1992 Rio Declaration on Environment and Development, of 14 June 1992, adopted by more than 178 States at the UN Conference on Environment and Development (UNCED or the 'Earth Summit'), held in Rio de Janeiro, Brazil, in June 1992; Doc.A/CONF.151/26/Rev.1 (Vol.I)(1992); 31 *ILM* (1992), 874

1992 Agenda 21, UNCED Report; **Chapter 18**, 'Protection of the Quality and Supply of Fresh Water Resources: Application of Integrated Approaches

to the Development, Management and Use of Water Resources', Annex II; Doc.A/CONF.151/26/Rev.1 (Vol.I)(1993)

1992 CBD. Convention on Biological Diversity, signed at Rio de Janeiro, on 5 June 1992; 168 signatories; in force 29 December 1993; 190 Parties (189 States and the European Community); 1760 UNTS (1993), 79; 31 *ILM* (1992), 818

1992 UN Framework **Convention on Climate Change,** concluded in New York, on 9 May 1992; 165 signatories; in force 21 March 1994; 192 Parties (191 States and the European Community); 1771 UNTS (1994), 107; 31 *ILM* (1992), 849; http://unfccc.int

1993 Framework for General Co-operation between the Arab Republic of Egypt and Ethiopia, signed at Cairo, on 1 July 1993; FAO (1997), 159

1993 CE Lugano Convention. Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, signed at Lugano, on 21 June 1993; not yet in force; CETS No.150; 32 *ILM* (1993), 1228

1993 UNECE Guidelines on the Ecosystem Approach in Water Management. UN Doc.ECE/ENVWA31 (1993)

1993 Convention for the Conservation of Southern Bluefin Tuna, signed at Canberra, Australia, on 10 May 1993; in force 20 May 1994; 1819 UNTS (1994), 360

1994 ILC Draft Articles or **ILC Report.** Report of the International Law Commission on the Work of its Forty-Sixth Session, *GAOR,* 49th Session, Suppl. No.10, Doc.A/49/10 (1994); *Yrbk ILC* [1994], Vol.II, Pt.2, 88-135

1994 Danube Convention. Convention on Co-operation for the Protection and Sustainable Use of the Danube River, signed in Sofia, on 29 June 1994; 13 Parties; in force 22 October 1998; OJ L 342, 12.12.1997, 19-43

1994 Treaty of Peace between Israel and Jordan, concluded at Arava/Araba Crossing Point, on 26 October 1994; 34 *ILM* (1995), 43

1994 UN Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, signed at Paris, on 14 October 1994; 115 signatories; in force 26 December 1996; 192 Parties (191 States and the European Community); 1954 UNTS (1996), 3; 33 *ILM* (1994), 1328

1994 OKACOM Agreement. Agreement between Angola, Botswana, and Namibia on the Establishment of a Permanent Okavango River Basin Water Commission (OKACOM), signed at Windhoek, on 16 September 1994; FAO (1997), 142

1995 SADC Water Protocol. Protocol on Shared Watercourse Systems in the Southern African Development Community Region, signed at Johannesburg, on 28 August 1995; in force 29 September 1998 and repealed with the entering into force of the 2000 SADC Revised Water Protocol on 22 September 2003; FAO (1997), 146; http://www.sadc.int

1995 Mekong River Agreement. Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, adopted in Chiang Rai, Thailand, on 5 April 1995; 34 *ILM* (1995), 864

1995 UN Agreement Relating to the Conservation and Management of Straddling and Highly Migratory Fish Stocks. UN Agreement for the Implementation of the Provisions of the United Nations Convention on

the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, adopted on 4 August 1995; in force 11 December 2001; 67 Parties; 34 *ILM* (1995), 1542

1995 Agreement between Greece and Bulgaria Regarding the Waters of the River Néstos, signed at Sofia, on 22 December 1995

1996 **Ganges Waters Treaty.** Treaty on Sharing of the Ganges Waters at Farakka [Dam], between India and Bangladesh, signed at New Delhi, on 12 December 1996; 36 *ILM* (1997), 519

1996 **Mahakali River Treaty.** Treaty between Nepal and India Concerning the Integrated Development of the Mahakali River including Sarada Barrage, Tanakpur Barrage, and Pancheshwar Project, signed at New Delhi, on 12 December 1996; 36 *ILM* (1997), 531

1996 **Declaration of Principles of Co-operation on Water-Related Matters** and New and Additional Water Resources by Israel, Jordan, and the Palestine Liberation Organization, signed at Oslo, Norway, on 13 February 1996; 36 *ILM* (1997), 761

1996 Treaty between Hungary and Romania on Understanding, Cooperation and Good Neighborliness, signed at Timisoara, on 16 September 1996; 36 *ILM* (1997), 340

1996 **Seveso II Directive.** Council Directive 96/82/EC, of 9 December 1996, on the control of major-accident hazards involving dangerous substances; OJ L 10, 14.1.1997, 13–33

1997 **UN Watercourses Convention.** Convention on the Law of the Non-Navigational Uses of International Watercourses, adopted by the UNGA on 21 May 1997; Resolution A/RES/51/229; 16 signatories; 16 States have ratified the Convention; not yet in force; Doc.A/51/869; 36 *ILM* (1997), 703

1998 **Aarhus Convention.** Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, adopted in Aarhus, Danemark, on 25 June 1998; 40 signatories; in force 30 October 2001; 41 Parties (40 States and the European Community); 2161 UNTS (2001), 447; 38 *ILM* (1999), 517

1998 **UNECE Berlin Recommendations on Transboundary Water Management.** Experience of International River and Lake Commissions, Berlin, Villa Borsig, 27 to 30 September 1998

1998 **Luso-Spanish Agreement.** Agreement between Portugal and Spain on Co-operation for the Protection and Sustainable Use of the Waters of the Spanish-Portuguese Hydrographic Basins, signed at Albufeira, Portugal, on 30 November 1998; 2099 UNTS (2000), 347

1998 **Brasília Accords.** Treaties of Peace between Peru and Ecuador, signed at Brasília, on 26 October 1998; available in Spanish at http://www.usip.org/library/pa/ep/pa_ep.html

1998 **Treaty of Trade and Navigation** between Peru and Ecuador, signed at Brasília, on 26 October 1998; 38 *ILM* (1999), 266

1999 **Convention on the Protection of the Rhine** between Germany, France, Luxembourg, the Netherlands, Switzerland, and the European Community, signed at Bern, on 12 April 1999; in force 1 January 2003; OJ L 289, 16.11.2000, 30-37; http://www.iksr.org

1999 Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, adopted in London, on 17 June 1999, by 36 signatories; in force 4 August 2005; 21 Parties; ECOSOC Doc.MP.WAT/AC.1/1999/1 of 24 March 1999; http://www.unece.org/env/water/text/text_protocol.htm

1999 ILA Campione Consolidation. The Campione Consolidation of the ILA Rules on International Water Resources (1966-1999), prepared by the Water Resources Law Committee at Campione d'Italia in June 1999, *Report of the Sixty-Ninth Conference, London, 2000,* 833-860; http://www.ila-hq.org/pdf/Water%20Resources/Water%20Res%20Report%202000.pdf

2000 ILA London Principles of CIL. 'Statement of Principles Applicable to the Formation of General Customary International Law', approved by the ILA at its London session in 2000, *Report of the Sixty-Ninth Conference, London, 2000,* 712-777; http://www.ila-hq.org/pdf/CustomaryLaw.pdf

2000 EC WFD. 'European Community Water Framework Directive'; Directive 2000/60/EC of the European Parliament and of the Council, of 23 October 2000, establishing a framework for Community action in the field of water policy; OJ L 327, 22.12.2000, 1–73

2000 SADC Revised Water Protocol. Revised Protocol on Shared Watercourses in the Southern African Development Community, signed at Windoek, on 7 August 2000; in force 22 September 2003; 40 *ILM* (2001), 321

2000 WCD Report. 'Dams and Development: a New Framework for Decision-Making', Report of the World Commission on Dams; at http://www.dams.org/report/

2000 ACP-EC Cotonou Agreement. Partnership Agreement between the members of the African, Caribbean and Pacific Group of States (ACP), of the one part, and the European Community and its Member States, of the other part, signed at Cotonou, on 23 June 2000; OJ L 317, 15.12.2000, 3-353

2001 European Charter on Water Resources, adopted by the Committee of Ministers on 17 October 2001; at http://www.coe.int/t/e/cultural_co-operation/environment/nature_and_biological_diversity/biodiversity/Water_Charter.asp

2001 ILC Articles on State Responsibility. Articles on Responsibility of States for Internationally Wrongful Acts, adopted by the ILC at its 53rd session in 2001; ILC Report, *GAOR,* 56th session, Suppl. No.10, Doc.A/56/10, Ch.IV, paras. 30-77, 29-365; http://untreaty.un.org/ilc/reports/2001/2001report.htm and http://untreaty.un.org/ilc/texts/instruments/english/draft%20articles/9_6_2001.pdf

2001 ILC Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, adopted by the ILC at its 53rd session in 2001; ILC Report, *GAOR,* 56th session, Suppl. No.10, Doc.A/56/10, Ch.V.E.1, 377-436;
http://www.un.org/law/ilc/texts/prevention/preventionfra.htm.

2002 Johannesbourg Declaration. The Political Declaration and the Plan of Implementation adopted at the World Summit on Sustainable Development (WSSD) in Johannesbourg, South Africa, in September 2002

2002 Incomaputo Agreement. Incomaputo Tripartite Interim Agreement between Mozambique, South Africa, and Swaziland for Co-operation on the Protection and Sustainable Utilisation of the Water Resources of the Incomati and Maputo Watercourses, signed at Johannesburg, on 29 August 2002

2002 ILA New Delhi Declaration of Principles of International Law Relating to Sustainable Development, adopted by the ILA at its New Delhi session in 2002; Resolution 3/2002; and

2002 ILA Report on the Legal Aspects of Sustainable Development 'Searching for the Contours of International Law in the Field of Sustainable Development', adopted by the ILA at its New Delhi session in 2002, *Report of the Seventieth Conference, New Delhi,* London (2002), 380-398; http://www.ila-hq.org

2003 Protocol on Strategic Environmental Assessment (SEA) to the 1991 Espoo Convention, adopted in Kiev, on 21 May 2003; 38 signatories; ratified by seven States; not yet in force; Doc.ECE/MP.EIA/2003/2

2003 Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters to the 1992 Helsinki Convention and to the 1992 Industrial Accidents Convention, adopted in Kiev, Ukraine, on 21 May 2003; 24 signatories; not yet in force; http://www.unece.org/env/civil-liability/protocol.html

2003 Revised African Convention on the Conservation of Nature and Natural Resources, signed at Maputo, Mozambique, on 11 July 2003; not yet in force; http://www.africa-union.org/root/AU/Documents/Treaties/treaties.htm

2004 ILA Berlin Rules on Water Resources, adopted by the Water Resources Law Committee of the ILA at its Berlin session on 21 August 2004, *Report of the Seventieth-first Conference, Berlin, 2004*, London (2004), 334-411; and **Sources of the ILA Rules on Water Resources**, at http://www.asil.org/ilib/WaterReport2004.pdf and http://www.ila-hq.org

2006 ILC Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities, adopted by the ILC at its 58th session in 2006; ILC Report, Doc.A/61/10, 2006, Ch.V, paras. 51-67, 101-182; http://untreaty.un.org/ilc/reports/2006/english/chp5.pdf and http://untreaty.un.org/ilc/texts/instruments/english/commentaries/9_10_2006.pdf

2006 ILC Draft Articles on the Law of Transboundary Aquifers, adopted by the Drafting Committee on first reading, at its 58th session in 2006; ILC Report, Doc.A/61/10, 2006, Ch.VI, paras. 75-6, 185-245

Glossary of Technical Terms

This glossary includes terms adopted and modified from different sources.[1]

Aquiculture. The raising or fattening of fish in enclosed ponds.

Aquatic ecosystem. System in which different organisms present in water interact with their environment through a cyclic interchange of materials and energy. These include rivers, wetlands, estuaries, and near-coast marine ecosystems.

Aquifer. A geological formation, usually permeable, capable of storing groundwater.

Atmospheric water. Water located in the atmosphere as cloud, rain, snow, fog, etc.

Barrage. Barrier constructed across a stream provided with a series of gates or other control mechanisms to control the water surface level upstream, to regulate the flow, or to divert water supplies into a canal. This kind of structure is usually built in a flat land across wide rivers; it does not create a storage reservoir and the water level is only raised by a few meters.

Dam. A man made barrier constructed across a river valley. The water is retained and the water level is raised significantly thus forming a lake or reservoir behind it. It may serve for, *inter alia*, flood control, hydro-electric power generation, water supply and sanitation, and irrigation. The reservoir may be used for recreation.

Discharge. The volume of river flow per unit of time expressed in cubic metres per second or litres per second.

Drainage basin. Catchment area. A particular geographical area delimited by the watershed and drained by a drainage network, usually considered the basic hydrological unit.

Environmental flow. Water flow regime provided within a river, wetland or coastal zone to maintain the ecosystems and their benefits where there are

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[1] Mainly these are Thomas and Goudie (eds.)(2000); Briggs, *et al.* (1997); UNESCO/WMO (1992); ICOLD (1998) and (2003); the British Dam Society website at http://www.britishdams.org/about_dams/types.htm (last visited on 28.7.2007).

competing water uses and where flows are regulated. It is considered essential to river health, economic development, and poverty alleviation.

Effluent. Liquid industrial waste, sewage, or fertilizers in solution discharged from industrial plants into a river, stream or lake.

Erosion. The wearing away of part of the land surface by the action of wind, water, ice, or gravity.

Evapotranspiration. Release of water from the soil to the atmosphere by the processes of evaporation and plant transpiration.

Hydraulic head. The water pressure due to the height of a water column, i.e., the higher the reservoir water level is in relation to the discharge point, the higher is its outlet velocity and the energy it contains.

Hydrography. Science that deals with the description and measurement of open bodies of water, such as oceans, seas, streams, rivers, lakes, reservoirs, etc.

Hydrology. Science that deals with the processes governing the depletion and replacement of the waters above and below the land surfaces of the Earth, their occurrence, circulation and distribution, both in time and space, their biological, chemical and physical properties, their reaction with their environment, including their relation to living beings.

Hydrometeorology. Study of the atmospheric and land phases of the hydrological cycle, with emphasis on the interrelationships involved between precipitation, evapotranspiration and the drainage basin.

International Water Resources. Water in the natural hydrological cycle shared by two or more States.

Large dam. Dam with a height of 15 metres or more from the foundation, or with a height between 5 and 15 metres, and with a reservoir volume of more than three million cubic metres.

Minimum annual flow. Least value of discharge in a stream during a hydrological year.

Multi-annual storage. Volume of water that can be stored in a reservoir to deal, partly or fully, with variations in flow and demand over more than one year.

Rehabilitation. Partial structural and functional return to a pre-disturbance state.

Restoration. Process of recovery obtained by manipulating hydrology, water quality, habitat structure to a pre-disturbance state.

River fragmentation is the interruption of the natural flow of a river by dams, inter-basin transfers or water withdrawal, and indicates the degree to which a river system has been affected by man.

Run-off. Part of precipitation that appears as stream flow. This occurs when the rainfall is very heavy and the rocks and soil cannot absorb any more water.

'Run-of-river' dams. Dams, such as weirs and barrages, and run-of-river diversion dams, which raise the level of the water upstream and generate a hydraulic head in the river to divert some of the water flow to a canal or power station.

Sediment. Material transported by water from the place of origin to the place of deposition. In watercourses, sediment is the alluvial material carried in suspension or as bed load.

Watershed. The boundary delimiting a drainage basin usually at the land surface. However, this may not correspond with the subsurface boundary of the basin, which is delimited according to the water table as the phreatic divide (UK). Also used as a synonym of drainage basin or catchment area (US).

Weir. Run-of-river dam, usually a low wall of stone, concrete or wicker, which may be used for controlling the upstream water level or for measuring discharge or for both.

Wetlands. An area of saturated soils which occurred naturally, such as fen or marshes.

Introduction

You can never step into the same river,
for new waters are always flowing on to you.
Heraclitus (535 BC - 475 BC), *On the Universe*

1. Identification of the Problem

Over the centuries, inter-state relations have developed in order to share the fresh water from the 261 international watercourses of the world.[1] The sharing among States of fresh water from international watercourses has, from time immemorial, raised complex legal questions, together with political and diplomatic issues. States, to meet their needs, rely to a greater or lesser extent on the fresh water available within their territory. But fresh water, a crucial natural resource, flows naturally across political boundaries, thus requiring some form of international regulation of the human uses of the waters. Thus, the problem of sharing fresh water has often been at the centre of negotiations and disputes due to geographical facts: States use rivers as boundaries or are positioned differently in relation to the water, either as upstream or as downstream States. This conditions the uses of the water, and consequently the legal positions adopted by individual States at the international level.

International law, largely through the law relating to international watercourses and international environmental law, has contributed to the development of inter-state relations by providing the means to deal with these issues. Some of these differences have been partially solved by means of bilateral or multilateral

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[1] Although there is no precise figure as to the number of international shared rivers, mainly due to methodological problems, some figures have been put forward. See, for example, Gleick (2000), 33. The term 'international river basin' was defined as any tributary that crosses the political boundaries of two or more nations. Only perennial rivers, that is, those that flow all the time, were considered.

Due to geopolitical changes, the number of international basins has increased since 1978, when a UN body listed 214 international basins. See UN (1978).

international agreements, whilst many problems remain the centre of disputes yet to be resolved.

Although numerous international water treaties have been concluded dealing specifically with transboundary watercourses, many international river basins worldwide are still wholly unregulated or insufficiently regulated, and consequently prone to give rise to tension or to aggravate existing conflicts.

This state of affairs raises the question of whether there is an obligation falling upon States to co-operate with each other on certain terms and conditions.

Especially in the context of international watercourses, several questions are raised relating to the obligation of States to co-operate:

- Is a sovereign State limited in its use of fresh water within its national territory?
- To what extent does a State have control of a river the spring of which does not lie within its boundaries?
- Does the physical reality of rivers impose on States an obligation to co-operate?
- What are the concrete obligations falling upon States as a result of the general obligation of co-operation?
- And what are the consequences of non-compliance with the obligation to co-operate?

Problems of definition of the scope, content, and application of the obligation to co-operate thus occupy an important place in international law and practice. Nonetheless, the detailed examination of this obligation in the context of international watercourses has been rather neglected by writers. The need for research in this field was acknowledged as early as 1980:

> The opposite to conflict is co-operation. In the flora of UN reports over recent years, cooperation and concerted action between men, between administrative units and ministries are called for in one way or the other. It is often not realised that it is not enough to call for cooperation – the way such cooperation is to be brought about must be spelled in detail.[2]

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[2] Widstrand (ed.)(1980), 172.

Vast literature exists in the form of studies, of a legal or other nature, dedicated to specific river basins or rivers, or addressing particular legal problems related to international watercourses. Most general treatises on the law of international watercourses or international environmental law refer to a principle or general obligation to co-operate, but, apart from the few studies on specific procedural obligations of States, these studies often omit the legal implications of the obligation to co-operate, notably the precise method of complying with it and the legal consequences of non-compliance. There is, to the author's knowledge, no specific study dealing with the precise identification and application of the principle of co-operation in the context of the law of international watercourses.

Hence, this study attempts to provide some insights into our understanding of the international law of co-operation and to contribute to the clarification of the principle of co-operation in the context of international watercourses, in the light of recent treaty provisions and state practice, and through the analysis of representative modern doctrine and case law.

The general obligation of States to co-operate plays a critical rôle in the implementation of the substantive principle of equitable and reasonable utilisation and the obligation not to cause significant transboundary harm, as well as in the protection, preservation and management of watercourses. Implementation of these principles requires the application of several procedural rules, corollaries of the principle of co-operation, which may be common to all cases and more precise in content.

To illustrate how the theories relating to the obligation to co-operate on international watercourses can be translated into concrete acts, several examples are provided, namely those involving planned works in a basin State. Common cases of planned works which potentially cause transboundary harm are those of projects for the construction and operation of dams on international watercourses.

This thesis is an attempt to shed some light into a still vague but fundamental principle through an interdisciplinary perspective between law and geography.

2. The Interdisciplinary Approach

The topicality of the subject of co-operation in the context of international water resources is obvious. Aware of global water problems, the United Nations General Assembly (UNGA) in its Millennium Declaration set as development goals on water 'to halve, by the year 2015, the proportion of the world's people who are unable to reach, or to afford, safe drinking water', as well as 'to stop the unsustainable exploitation of water resources'.[3] The World Summit on Sustainable Development, which took place in Johannesburg in 2002, reiterated these goals in its Plan of Implementation and added the target of reducing by half, also by 2015, the proportion of people without access to basic sanitation.[4] The UNGA proclaimed the year 2003 the International Year of Freshwater[5] and the period from 2005 to 2015 the International Decade for Action,[6] 'Water for Life',[7] commencing on World Water Day, 22 March 2005.

To achieve these goals there is a need for co-ordinated action. The international community through governments, international organisations and agencies, in collaboration with NGOs and the private sector, joined efforts in order to prepare several projects of different nature and to organise several international events to address global water issues.[8]

In addition, several important conferences have been taking place in order to discuss all the complex issues about and surrounding water. This results from the recognition over the past decade of existing and potential fresh water-related problems around the globe and the conflicts that could arise if no

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[3] UNGA Resolution 55/2, of 8 September 2000.

[4] The rôle of the UN, in its many facets, should not be underestimated. In 1993, the UNGA declared the 22 March of each year to be World Day for Water, following the recommendations the UN Conference on Environment and Development (UNCED) set forth in Chapter 18, on Fresh Water Resources, of Agenda 21. See Resolution A/RES/47/193, of 22 December 1992.

[5] UNGA Resolution 55/196, of 20 December 2000.

[6] UNGA Resolution 58/217, of 23 December 2003.

[7] Based on the title of the first UN World Water Development Report 'Water for People, Water for Life' (WWDR), a periodic, comprehensive review of the state of the world's freshwater resources. The main goal of the decade is to have a greater focus on water-related issues at all levels and on the implementation of water-related programs and projects and 'the furtherance of co-operation at all levels', in order to achieve the goals contained in Agenda 21, the UN Millennium Development Goals and the Johannesburg Plan of Implementation.

[8] For the key events, see *infra* s.5.3.3. For an exhaustive list of water-related events, see http://www.unesco.org/water/water_events, and specifically for those events which took place in the ambit of the International Year of Freshwater, see http://www.wateryear2003.org.

action was taken on time. The program 'From Potential Conflict to Co-operation Potential', part of UNESCO's World Water Assessment Programme (WWAP), evidences this.[9]

The attention paid to the subject over the past few years is not of transient importance. The need for States to avoid conflict and invest in co-operation is now a common call.

Due to the variety and the nature of the issues involved in the context of international watercourses, an interdisciplinary approach was adopted between law and geography in order to understand the kind of issues faced in negotiations. Different methodologies and conceptual tools have proved valuable in a field that could undoubtedly benefit from a common vocabulary and framework of analysis. When dealing with river basin management, it is widely accepted that it is necessary to assume an integrated approach. This implies a scientific and technical knowledge that goes beyond the usual legal field. This interdisciplinary approach thus permits the sharing of insights and information and a better understanding of technical questions presented to the international lawyer when dealing with international watercourses, especially in complex treaty negotiations. This approach facilitates more equitable, efficient, and effective long-term solutions. In fact, for an integrated approach, studies of an interdisciplinary nature are required, notably of law and both physical and human geography, civil and environmental engineering, economics, political science, and international relations. For example, quantitative research is essentially a methodological approach using geographical data and statistics and converting facts and information into a form that is suitable for scientific investigation, which in turn produces, in the context of transboundary rivers, an important effect on international law by enabling a greater depth of knowledge and appreciation of the various issues involved. This is particularly relevant to the international lawyer, since the integrated management of an international river or part of a river is based on co-operation through consultations and negotiations between the riparian States on the basis of scientific information. Similarly, communication between lawyers and hydrologists, geomorphologists, engineers and ecologists, to name just a few, is fundamental in the context of joint river commissions, or other joint

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[9] See *infra* s.5.3.4.

institutional mechanisms.[10] The rules and principles of international law applicable to international river basins derive, for the most part, from state practice and from the agreements reached through negotiations between the basin States.

The need for interdisciplinary work in this field has been recognised and there are now several recent examples. Of particular reference are the first *UN World Water Development Report: Water for People – Water for Life* (WWDR), and the second *UN World Water Development Report: Water a Shared Responsibility* (WWDR 2), the most important outcome of the WWAP, a joint project involving 23 UN specialized agencies and other entities, which provide a comprehensive perspective of global water problems and presents numerous recommendations.[11]

Another recent example of interdisciplinary work is found in the report prepared by the World Commission on Dams, an *ad hoc* independent body established in 1998 by different interest groups, such as the World Conservation Union and the World Bank. This report recognises the need for co-operation among States in sharing the waters and the benefits derived from those international rivers.[12]

Although the report is not a legally binding document, it addresses the principles of international water resources law concurrently with issues of a technical, financial, environmental and social nature, thus bringing them for the first time to the international fora debating dams on international rivers.[13] Thus, international water lawyers participate in the decision-making process on dams together with engineers, geographers, economists, financial analysts, and affected people.[14]

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[10] For a criticism of the normal limited scientific knowledge amongst legislators, policy-makers, and the judiciary and its consequences, see Eckstein (1998), 1.

[11] See UN/WWAP (2003) and (2006). The WWDR is targeted to those involved with water-related policies and investment strategies as well as different professionals. The target audience includes scientists, hydrologists, water experts and administrators and decision-makers at local, national, regional, and international levels, water educators, hydrological trainers, students in hydrology and other water-related subjects.

[12] See *infra* s.1.5.2.4 and 4.3.1.7.

[13] Salman (2001b), 288.

[14] Salman (2001a), 1504.

The advantages of interdisciplinary work should not be underestimated,[15] since the international society's approach to water resources development, protection, and management based on fundamental principles of national and international law may strongly determine the effects on man and the environment.

3. The Method Adopted

The thesis is structured in six chapters.

Chapter 1 begins by explaining the relevant terminology and approaches in the context of international watercourses. It provides an overview of the interaction of the different uses of water, and considers their impact upon the water environment and how they cause tension between riparian States. It also addresses the most serious causes for conflict and how these threats may be transformed into actual co-operation, for example, through the construction and operation of dams.

Chapter 2 addresses the principle of co-operation from a theoretical perspective. It begins with an introduction to the evolution of international water law. In order to understand the extent to which sovereign States have the right to use the fresh water available within their boundaries, the different theories are explained and discussed.

The relationship between the principle of co-operation and other important general principles of international law are then examined with the purpose of determining the scope of the obligation to co-operate in the context of international watercourses.

Chapter 3 focuses on the concept of co-operation in general and in the context of the law of international watercourses in particular. This concept is examined through international legal instruments, through the relevant case law, and through the definitions presented by authors. In addition, there is a

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[15] On the need for interdisciplinary work on international water-related matters, see, e.g. Wolf (1998), 263.

comparative analysis of the rôle and application of the duty to co-operate in relation to other fields related to the protection of the environment, namely the law of the sea, and biodiversity.

Chapter 4 examines the individual procedural rules, which reflect the principle of co-operation, and are relevant to the law applicable to international watercourses, as well as their evolution, primarily in conventional State practice.

The procedural rules under scrutiny include the obligation to exchange data and information regularly, the obligation of notification comprising the duty to notify planned measures, environmental impact assessments, and the provision of emergency information, the obligation to enter into consultations, and the obligation to negotiate in good faith. The examination of these rules comprises a critical analysis of the relevant international conventions, treaties and other legal instruments, and of the relevant international judicial decisions, in order to identify their main strengths and critical weaknesses, as well as their importance outside specific treaty régimes.

Chapter 5 presents a categorisation of the forms and levels of co-operation, and analyses the variety and importance of institutional mechanisms and joint commissions. In addition, it examines the rôle of international organisations in increasing co-operation regarding international watercourses and the problem of its implementation. Finally, it discusses the feasibility of constructing and securing wider acceptance for a model of co-operation concerning international watercourses and its potential utility.

In Chapter 6, the most pertinent issues of non-compliance and state responsibility related to the obligation to co-operate are examined. The study also refers to the recent work of the ILC on prevention of transboundary damage from hazardous activities.

Finally, the thesis provides a synthesis and conclusions regarding the evolution and consolidation of the principle of co-operation.

1

International Watercourses: General Issues

Water is likely to become a growing source of tension and fierce competition between nations, if present trends continue, but it can also be a catalyst for co-operation.
Kofi Annan, former UN Secretary-General, 2002

The relationship between geography and law concerning international watercourses is evident. On the one hand, the physical reality of transboundary rivers requires international law: since 'water knows no frontiers'[1] and frequently flows across different States, it requires law to impose limitations on States' control over the water within their territory, and 'as a common resource it demands international co-operation'[2] between them. On the other hand, natural features such as international rivers are often used to mark territorial frontiers between States, while the peoples in either side share use of the river waters. Indeed, the international law of watercourses reflects the relevance of geographic characteristics of river systems in its evolution. What is not so evident, however, is the extent to which international law obliges States to co-operate on these transboundary watercourses.

The present chapter addresses some of the interdisciplinary issues related to the principle of co-operation. In order to understand the rôle of legal rules in regulating rights and obligations over water, the chapter begins by referring to the sometimes difficult transition from geophysical facts into legal terminology or vice-versa. Following an overview of the interaction of the different uses of the water and their impact upon the environment, the chapter addresses the

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[1] Principle 12 of the 1968 European Water Charter.

[2] *Id.*

most common causes for tension between riparian States that may lead to conflict. It then focuses on the possibility of transforming existing and future threats into opportunities to co-operate, in particular the case of dams.

1.1 Basic Concepts

One of the reasons underlying the sometimes problematic relation between lawyers and policy makers on the one hand, and scientists and engineers on the other, is the fact that, generally speaking, they do not share the same terminology. This probably means that they have difficulty in understanding one another's disciplines, and, as a consequence, the communication between them may at times become strained. The need for a common terminology is manifest, in particular when water resources' planning is the subject of domestic regulation or negotiations between States.

Over the centuries, and especially since the 1960s, new approaches have been adopted and legal terminology has evolved in 'an attempt to embrace a geophysical reality about which there is increasing knowledge and, therefore, about which the legal system must be more realistic to be effective'.[3] As with the law of the sea, the conversion of geographical facts into legal concepts, and occasionally the other way around, reflects the sometimes difficult relationship between legal and scientific concepts.[4]

The problem of using concepts both in geography and law may be illustrated by the expression **shared natural resources**. Further to the normal meaning arising from the underlying physical reality that a natural resource, such as fresh water or migratory species, is shared by two or more States, the expression has been argued to have legal implications.[5] The International Court of Justice (ICJ) has asserted in two cases that 'shared resources' and 'common property' both reflect the concept of falling outside the exclusive control of one

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[3] Cohen (1975), 236.

[4] A good example is provided on the determination of the outer limits of the continental shelf. For a study on the interface between scientific and legal concepts in this area, see Cook and Carleton (eds.)(2000).

[5] See generally on the legal status of natural resources, Birnie and Boyle (2002), 137-144, and particularly on shared natural resources, at 139-141.

State.[6] In addition, in the *Territorial Jurisdiction of the International Commission of the River Oder* case, the Permanent Court of International Justice (PCIJ) introduced the concept of 'community of interest of riparian States' in relation to watercourses,[7] meaning that States may exercise shared rights over the water resources in question.

The expression 'shared natural resources' was used in a few United Nations General Assembly (UNGA) resolutions, such as the 1973 UNGA Resolution on Co-operation in the Field of the Environment, and Article 43 of the 1974 Charter of Economic Rights and Duties of States.[8] Both resolutions affirm the need for States to co-operate on the basis of information exchange and prior consultation.

These resolutions led to the adoption in 1978 of the 'Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States' by the Governing Council of the United Nations Environment Programme (UNEP).[9] Principle 1 recognises that shared natural resources are subject to specific obligations of co-operation and equitable utilization. In the UNGA, however, the Principles were treated only as guidelines and recommendations for future treaties 'without prejudice to the binding nature of those rules already recognized as such in international law'. It should be noted that both resolutions and the Principles fail to specify which natural resources should be considered as shared.[10]

More recently the expression 'shared natural resources' was initially adopted by the International Law Commission (ILC) in its draft articles on the non-navigational uses of international watercourses. But it has not received the general agreement of States, some of whom opposed the use of the concept because its legal implications were not clear. The reference to this concept was then eliminated from the draft articles on the grounds that greater legal

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[6] In the *Anglo-Norwegian Fisheries* case (1951), and over twenty years later in the *Fisheries Jurisdiction* case (1974). But these two concepts also differ: common property 'refers primarily to areas beyond national jurisdiction'. See Birnie and Boyle (2002), 139-143.

[7] For an analysis of the case, see *infra* s.3.2.6.2.

[8] Several Western States voted against this resolution or abstained.

[9] For an analysis of this document, see e.g. Lammers (1984), 335-8.

[10] Birnie and Boyle (2002), 140.

certainty had been achieved without it while the loss of the concept would not interfere with the determination of the rights and obligations of the co-basin States.[11]

The controversy surrounding the adoption of these UNGA resolutions, the unwillingness of States to adopt the 1978 UNEP Principles on Shared Natural Resources and the language then used, as well as the removal of the expression from the ILC Draft Articles points to the conclusion that States tend to reject a vague notion which imposes on them not only limits to their sovereignty but also a level of co-operation that they are not prepared to undertake.

Nevertheless, the terms 'shared', 'international' and 'transboundary' in relation to water resources will be used interchangeably throughout this thesis. They may refer to surface, ground, or atmospheric waters. The terms 'watercourses' and 'rivers' will also be used synonymously.

Although rivers flow naturally without regard to frontier demarcations, the laws that are applied to them differ. The distinction between **national and international rivers** is therefore relevant. National rivers flow exclusively within the territory of one State, are under the jurisdiction of that State, and are regulated primarily by domestic law. Conversely, international rivers flow across or serve as boundary between two or more States and are also regulated by international law. Clear as this distinction seems to be, two important considerations should be made. Firstly, as regional organisations, such as the European Union or the Southern African Development Community (SADC), increase their activity in regard to domestic matters,[12] and the number of treaties regulating water affairs grows rapidly, even national rivers tend not to be regulated exclusively by national laws. Second, as we will see in the next section, the relevance of this distinction is limited. If a drainage basin approach is adopted, even in the case of national rivers the interests of co-basin States must be taken into account.

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[11] 1986 McCaffrey's Second Report, 103, para 74. Nevertheless, in 2002 the ILC decided to include in the programme of its work the topic entitled 'Shared Natural Resources'. Although this only focuses on transboundary groundwaters, and in the future on oil and natural gas, the suitability of the title has already raised concern in the UNGA Sixth Committee at its 57th session in 2002. See Special Rapporteur Yamada's First Report on Shared Natural Resources, UN Doc.A/CN.4/533, para.4.

[12] Notably in the context of watercourses through the 2000 EC Water Framework Directive, and the 2000 SADC Revised Water Protocol.

Another distinction that arguably has legal significance is that between **successive and contiguous rivers**.[13] Successive rivers are those that flow across the territory of two or more States, whereas contiguous or boundary rivers are those that separate two or more States. The relevant rules of international law apply to both successive and contiguous rivers.[14] Lipper considers this distinction as having no significance in international law.[15] While there is a geographical difference between them, i.e., in a successive river each State has total physical control over its course, and in a contiguous river this is shared between the States, this difference seems to have limited legal significance. In both cases the course of the river touches the land territory of the riparian States, and in some cases the river may flow through the territory of two States and at some point serve also as a border between them.

1.2 The Relevance of Different Approaches

Through time different approaches have been adopted in the context of water resources.[16] Traditionally, States approached international water resources issues by considering their uses of the waters, such as navigation or hydro-electric power, thus focusing mainly on the surface water of rivers and lakes shared by two or more States, in order to accommodate the conflicting interests. But the increasing knowledge of the hydrological system led to a change in approach, by including not only the main water channel and the water contained therein, but also all tributaries and groundwater, and eventually the whole catchment area.[17]

This new approach is based on the concept of the **drainage or river basin, or catchment**. This consists of a particular geographical area of land delimited by

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[13] See generally McCaffrey (2001), 41-4.

[14] This is the view of several commentators from an early time, such as Smith (1931), 155-6, and Lipper (1967), 17, who also points to the fact that the PCIJ in the *River Oder* case, while discussing general fluvial law, drew no distinction between the two categories of rivers. There seems to be no opposition to this view.

[15] Lipper (1967), 17.

[16] See generally McCaffrey (2001), 33-45; Teclaff (1996); Bruhács (1993), 24-40; and Bourne (1969).

[17] McCaffrey (2001), 34.

the watershed where the water is concentrated and flows into the drainage network, i.e., the system of river and stream channels in a specific basin or area.[18] It includes, for instance, surface waters, such as the main channel and all tributaries, lakes, etc.; groundwaters, except if the aquifer system is confined or impermeable; atmospheric water; estuaries, etc. In geography, a drainage basin has long been considered the basic hydrological unit for planning and management purposes.[19]

This 'unitary theory' considers the whole drainage basin as a unit for management purposes, as opposed to the regulation of one or more water uses separately. In the 1930s, Smith defended the adoption of this unitary theory into the legal field. This writer considered that 'the law gradually moves towards the true conception of each river basin as an indivisible physical unit'.[20] This approach is supported by most authors and has been favoured by declarations of international conferences[21] and by learned societies.[22] Although state practice did not previously support this theory,[23] modern treaties are increasingly adopting it, mainly in specific treaties,[24] and is now widely used in domestic legal systems. Thus, the concept may be considered a result of the progressive development of international law. But what implications does this approach have for international law? And how does it differ from other approaches?

The 1966 Helsinki Rules of the International Law Association (ILA) used the concept of 'international drainage basin' as the underlying legal unit. Article II defines it as 'a geographical area extending over two or more States determined by the watershed limits of the system of waters, including surface and

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[18] Note that 'catchment area' means drainage basin and watershed in American English, and watershed in British English means 'divide' in American English.

[19] However, it should be noted that the surface boundary of the drainage basin might not correspond with the subsurface limit and this may have legal implications. McCaffrey (2001), 25.

[20] Smith (1931), 20.

[21] E.g. the 1972 Stockholm Declaration and the 1992 UNCED Rio Declaration. It is the approach recommended by the Panel of Experts on the Legal and Institutional Aspects of International Water Resources Development. UN (1975), 48.

[22] The IDI's 1961 Salzburg Resolution and the 1979 Athens Resolution on Pollution; and the ILA's 1966 Helsinki Rules, 1982 Montreal Rules on Water Pollution, and 2004 Berlin Rules.

[23] See Caubet (1991), 35, and Birnie and Boyle (2002), 299-301.

[24] E.g. in South America, the 1978 Treaty for Amazonian Cooperation; in Asia, the 1995 Mekong River Agreement; and in Europe, the 1994 Danube Convention. See *infra* s.3.2.5.

underground waters, flowing into a common terminus'. Its scope, however, generated some controversy.

The advantages of adopting a drainage basin approach are numerous. It is based on a hydrological unit that allows an optimal utilization and development of the whole basin while accommodating different interests on the uses of the waters;[25] its physical geography provides a certain unit that allows a simpler approach than others, easier to study and to plan than larger areas; it provides a convenient framework for planning and management, that is, its comprehensive scope allows a more efficient environmental management of transboundary waters, both in water utilization and pollution control. More recently, the approach has been used on a project-by-project basis to promote ecosystem restoration.[26]

Nevertheless, opposition to the adoption of the drainage basin as a unit has been voiced.[27] As international river basins do not correspond to political units, the main reasons for this opposition relate to the fact that the hydrological unit may not always be advantageously considered as a legal or economic unit.[28].

In order to avoid the controversy raised by the wide concept of 'international drainage basin' used in the 1966 ILA Helsinki Rules, the ILC, in its work on the law of non-navigational uses of international watercourses, reformulated the concept and opted for the expression **international watercourse system**. This expression was adopted since it had long been used in agreements on international watercourses to refer to a river, its tributaries and connecting canals.[29]

In the 1997 UN Watercourses Convention, the expression 'international watercourse' is defined in Article 2(b) as 'a watercourse, parts of which are

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[25] See, e.g. comment to Article II of the 1966 ILA Helsinki Rules, 485.

[26] Teclaff (1996), 376 and the examples given therein.

[27] See, e.g. Bourne (1969).

[28] Bourne argues that neither state practice nor international or federal cases support the proposition that a principle of legal unity of the drainage basin may be deduced from its physical geography. He also argues that an international drainage basin cannot be treated as an economic unit separated from the national economies of the co-basin States. He proposes that a broader approach should be adopted, such as of an 'area', 'regional' or national approach, and that international law favours a 'flexible formula'. However, he recognises the advantages of adopting a drainage basin approach. Bourne (1969), 15, 19, 21-2.

[29] See, e.g. the 1919 Treaty of Versailles.

situated in different States'.[30] This is based on the concept of 'watercourse' which is defined in Article 2(a) as 'a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus'.[31]

Special Rapporteur McCaffrey considers the concept of drainage basin 'functionally equivalent' to that of watercourse system, and justifies the choice made by the ILC as follows:

> ... a term that is scientifically accurate will be of little use in the field of international law if it is not recognised in the practice of States. And it must be remembered as a practical matter that lawyers and governments, like Humpty Dumpty, are used to defining words to mean whatever they want them to mean.[32]

Although only 32 States replied to the ILC's questionnaire, more than half were generally in favour of adopting the concept of drainage basin as the basis for the ILC's work. Most of these States were downstream. Conversely, most of the States opposing the use of the concept were upstream or had a predominantly upstream position. This seems to reflect the concern by these States that the use of this concept might involve regulation of land territory besides that of the waters.[33]

But other geographical approaches have been adopted for purposes of managing international rivers in international legal instruments.

The **ecosystem approach** to water management was developed from the outcome of the 1972 Stockholm Conference on the Human Environment by North American state practice[34] and by some international conferences.[35] But this led to different interpretations as to what an ecosystem approach consists

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[30] The term 'parts' here include the main stream, tributaries, headwaters, or any aquifer receiving water from or supplying water to portions of the watercourse system situated in other States. McCaffrey (2001), 40-1.

[31] This last phrase also raised controversy. See McCaffrey (2001), 39-40.

[32] McCaffrey (2001), 36.

[33] *Ibid.*, 36-37

[34] Namely on the Great Lakes-St. Lawrence drainage basin. See Teclaff (1996), 378, and references therein.

[35] *Id.* For the emergence of this approach in the context of international watercourses, see McIntyre (2004).

of. The concept 'ecosystem' sometimes referred to the channel and banks of the river, at others times to the watercourse network, and sometimes even to the whole river basin.[36] The 1993 UNECE Guidelines on the Ecosystem Approach in Water Management attempted to clarify the issue by using the concept of river basin. It recommended that the whole catchment area be considered as a natural unit for ecosystems-based water management (para. 1). It further proposed that a river basin be considered an ecosystems continuum when covering a large territory comprising different types of ecosystems (para. 5).

This approach was also considered in the 1992 Dublin UN Conference on Water and the Environment, and in the 1992 Rio de Janeiro UN Conference on Environment and Development (UNCED). Principle 1 of the 1992 Dublin Statement associates it with an **integrated or holistic water resources management approach**. It declares that '[f]resh water is a finite and vulnerable resource, essential to sustain life, development and the environment', and explains that '[s]ince water sustains life, effective management of water resources demands a holistic approach, linking social and economic development with protection of natural ecosystems. Effective management links land and water uses across the whole of a catchment area or groundwater aquifer.' Again, the river basin is 'the most appropriate geographical entity'[37] for planning, management, protection of the ecosystems, and the resolving of water disputes. The 1992 Dublin Statement further associates these approaches with sustainable development.[38] However, it falls short of indicating what exactly an integrated or holistic approach means.

The 1992 Agenda 21 followed the same line and specified that an integrated water resources management 'should be carried out at the level of the catchment basin or sub-basin', while taking into account existing inter-linkages between surface and groundwater.[39] But it contributed to the clarification of the meaning of an integrated approach by adding that one of its principal objectives is 'to promote a dynamic, interactive, iterative and multi-sectoral approach to water resources management . . . that integrates

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[36] Teclaff (1996), 379.

[37] 1992 Dublin Statement, Action Plan, paragraph on Resolving Water Conflicts.

[38] Para. on Protecting Aquatic Ecosystems.

[39] Ch.18.9.

technological, socio-economic, environmental and human health considerations'.[40]

These two international documents have no binding force.[41] Nevertheless, their influence in national and international policies,[42] in domestic legislation[43] and international treaties[44] is indisputable.[45] Teclaff summarises the issue in the following terms:

> Within the past quarter of a century, however, environmental concerns have reinforced the basin concept and transformed it from a plan for water resources exploitation into a blueprint for holistic management and use of a unique natural unit.[46]

There is no one exact definition of the concept of integrated water resources management. Several definitions have been put forward,[47] and based on these it is possible to conclude that integrated management includes different forms of integration, notably 'for all uses of water, with a view to maximising the global benefits and reducing conflicts among those who depend on and compete for this finite and vulnerable resource; of economic, social and

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[40] *Id.* 18.9 (a).

[41] See also, e.g. Article 6 and comment of the 2004 ILA Berlin Rules, which considers it essential for realizing the sustainable use of waters and other resources; and Principle 7 of the 2002 ILA New Delhi Declaration of Principles of International Law Relating to Sustainable Development, where the principle of 'integration' is recognized as fundamental to sustainable development generally.

[42] The UN Commission on Sustainable Development (CSD), created in December 1992 to ensure effective follow-up of UNCED, as well as to monitor and report on implementation of agreements at the local, national, regional and international levels, also recommended an integrated or holistic approach to water resources management and conservation of the basins at the different levels. See UN Doc.E/CN/17/1994/L.5 (1994). International financial institutions are also instituting increasingly stringent requirements for integrated water resources management. The Inter-American Development Bank, for example, states in its *Strategy for Integrated Water Resources Management* that '*Eventually*, conformity with an integrated national water resources management strategy based on the river basin as the management unit will be a condition of all loans for water-related projects on a case-by-case basis'. Inter-American Development Bank (1998), 14.

[43] E.g. in Portugal, Decree-Law No.45/94, *Diário da República* 44/94, Series I-A, of 22 February 1994, which regulates the water resources planning process and the elaboration and approval of water resources plans.

[44] See, e.g. the 1997 UN Watercourses Convention, or Article 5(j) of the 1999 Protocol on Water and Health.

[45] Agenda 21 and the Rio Declaration were adopted by more than 178 Governments at UNCED.

[46] Teclaff (1996), 359.

[47] E.g., it has been defined as the management of surface and groundwater in the qualitative, quantitative and ecological sense from a multidisciplinary perspective, and focused on the needs and requirements of the society at large regarding water. For a detailed examination of the concept, see van Hofwegen (2000), and van Hofwegen and Jaspers (2006). See also the technical study of the Inter-American Development Bank (1998), 14-19, which adopts a similar definition.

environmental interests, both of the direct users of water and of society at large; of all aspects of water (quantity, quality and time of occurrence) which have influence on its uses and users; of the different phases of the hydrological cycle; at the level of river basins, aquifers, or interconnected water systems; of water demand and water supply; of water, land and other related resources and ecosystems'.[48]

It is clear from the above that the adoption of the drainage or river basin as a geographical and legal unit reflects the recognition of the interdependence of basin States and the need for some form of co-operation. This concept has been used, for instance, at the regional level in the EC Water Framework Directive.[49] The evolution of the concept and its adoption reflect the degree of difficulty in transposing a hydrological reality into a legal concept. On the other hand, increasing geographical knowledge is reflected in the development of legal concepts.

1.3 Competing Demands of Fresh Water Uses and Users and Their Impact upon the Water Environment

1.3.1 Navigation

For centuries, and until the first decades of the twentieth century, navigation was the most important means of transport, and its use for trade was vital and understandably had an enormous impact in the economies of States. It was in the context of navigation that the issues relating to rights and duties of riparian States first appeared.

[48] Circular of the Network for Cooperation in Integrated Water Resource Management for Sustainable Development in Latin America and the Caribbean, UN/ECLAC, No.24, August 2006, 1, available at http://www.eclac.org/drni/ (last visited on 15.1.2007).

[49] See, e.g. Preamble para.(13) and (35), Article 2(13), which defines river basin, and Article 2, para.(15), which defines 'river basin district', the main unit for management of river basins.

Historically, navigation was the most significant use of international waterways. This meant that its use took precedence over all other uses.[50]

This may be illustrated by the 1921 Barcelona Convention and Statute on the Regime of Navigable Waterways of International Concern. Although admitting an exception in paragraph 6 in the cases where navigation had very small importance and when the State in question could 'justify its action on the ground of an economic interest clearly greater than that of navigation', Article 10(1) provided the rule that

'1. Each riparian State is bound, on the one hand, to refrain from all the measures likely to prejudice the navigability of the waterway, or to reduce the facilities for navigation, and, on the other hand, to take as rapidly as possible all necessary steps for removing any obstacles and dangers which may occur to navigation.'

But with a rapid population growth and as the needs from industry development and technology progressed, non-navigational uses of waterways increased, thus diminishing the pre-eminence once given to navigation.[51] This shift in approach is evidenced in several international instruments, notably Article VI of the 1966 ILA Helsinki Rules. This Article states that 'A use or category of uses is not entitled to any inherent preference over any other use or category of uses'.

Similarly, Article 10(1) of the 1997 UN Watercourses Convention provides that '[i]n the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over the other uses.' But in this case the ILC went further and added in paragraph 2 that in the event of a conflict between the uses, this should be resolved according to the principle of equitable and reasonable utilisation and the obligation not to cause significant harm, and that vital human needs should never be compromised.

In fact, this approach to the question of conflicting uses follows state practice. Although there is no rule of international law prohibiting States from agreeing to accord priority to navigation over other uses, or indeed to any one use over

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[50] For an overview of the historical evolution of the legal protection of the different water uses, see *infra* s.2.1.2.

[51] Commentary to Article VI of the 1966 ILA Helsinki Rules.

another, numerous examples exist that illustrate the decline in relative importance of navigation or even the prioritisation of any one use over the others.[52]

The main practical problem with this approach is that of the application of the principle of equitable and reasonable utilisation.[53] For instance, when riparian States do not share a particularly friendly relationship, the complex determination of what is equitable and reasonable, that is, the need for consideration of all uses, circumstances and relevant factors, its discussion, and possibly the conclusion of a new agreement seems more difficult. Although the flexibility of the principle allows for negotiations, these would take place probably more effectively with third party intervention.[54]

One example of a problematic situation associated with the compatibility of water uses is that of the relationship between Argentina, Brazil and Paraguay, the riparians of the Paraná River basin,[55] which is the most important river in the Prata system. Navigation is still a very important use in the basin, especially for Argentina, for geographical reasons, the main beneficiary of this use. Its priority had never been questioned before the 1960s. But the need for development and the production of electricity led Brazil to construct numerous dams on international rivers.[56] The issue of competing uses worsened because Argentina feared that navigation would be affected by Brazilian projects and it would place the three riparians on an unequal footing in terms of hydro-electric power generation. This is because the geographical situation and the boundary line favoured the Brazilian Itaipú project upstream over Argentinean projects downstream, notably due to the volume of river flow needed for the downstream projects.

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[52] E.g. Article 9 of the 1995 Mekong River Agreement.

[53] See *infra* s.2.3.4.

[54] McCaffrey (2001), 50.

[55] It covers about 890,000 km^2 in Brazil, 565,000 km^2 in Argentina, and 55,000 km^2 in Paraguay. Most of its area is located in Brazil. For about 190 km it serves as boundary between Brazil and Paraguay, until it reaches the Iguaçu River. This confluence is the point of convergence of the territories of Argentina, Brazil, and Paraguay.

[56] Today Brazil has built 594 dams, Argentina 101, and Paraguay 4 dams. World Commission on Dams (2000), Annex V, 374. The main purposes for building large dams have been hydropower generation and flood control.

In the 1960s and 70s, the water policy of regional States changed and negotiations led to bilateral and multilateral agreements focusing on hydro-electric power production, then considered the essential use of the resources for economic and development purposes. In most cases, the treaties regulating this use also considered other uses linked to the projects, such as irrigation, and navigation.[57]

Having negotiated and concluded the 1973 Treaty of Itaipú with Paraguay, Brazil was accused of deliberately choosing a location to damage Argentinean prospects and to enhance the economic and political dependence of Paraguay by following a geopolitical expansionist and imperialist strategy.[58] But in the past decades all riparian States have decided as a matter of policy to invest heavily on hydro-electricity. Thus, at present, Paraguay totally depends on hydro-power as the source of electricity; Brazil relies heavily with 97,4% of its energy deriving from hydro-power; and Argentina generates from hydro-power 44,7% of its total electricity production.[59]

1.3.2 Non-navigational Uses

The nature of non-navigational uses of the waters varies. There may be agricultural, economic or commercial, as well as domestic and social uses. Agricultural uses include irrigation, such as water supply for livestock and to grow crops, drainage, aquiculture, and effluents; economic and commercial uses include electric power generation, whether hydro-electric, nuclear or conventional, industrial uses, such as timber floating, effluents, or in industries, such as mineral or oil; domestic and social uses include the supply of water for municipal use and for sanitation purposes, effluents, and for recreation, such as fishing, swimming, or water sports.

Most major water-related problems encountered today[60] result from rapid population growth, which in turn leads to industrialization as well as

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[57] E.g. the 1973 Treaty of Itaipú.

[58] Caubet (1991), 30. The three States eventually reached an agreement on the Paraná River Projects in 1979.

[59] Gleick (1999), 278.

[60] See generally UN/WWAP (2003) and (2006).

urbanisation, land use change, food insecurity, higher energy requirements and thus to a constant increase in water demands for agriculture, industry, recreation and tourism, and different urban lifestyles.

Further expanding economic activity and poor irrigation practices endanger water resources, which are often already overloaded with dangerous industrial chemical effluents and raw sewage. A large percentage of water used is depleted, that is, not returned to the servient catchment; the remainder is returned to rivers, lakes or coastal waters as waste water of varying quality. The result is water pollution and environmental degradation such as loss of biodiversity. In addition, fresh water ecosystems are also affected by reduced and altered flows and by infrastructure construction.

Hence, the uses of fresh water raises two distinct, yet by their nature necessarily interconnected, issues with which water management must deal: water quality and water quantity. Thus, the protection of water resources must involve a complex of activities covering both aspects. These include activities for the prevention, control and reduction of water pollution, such as the monitoring of water quality and measurements against eutrophication, and specific activities against industrial, thermal, and accidental pollution, the control and reduction of municipal waste water discharges and its treatment, the control of discharges containing radioactive material, and measurements related to water levels and flow rates, erosion control, and against overuse and pollution of groundwaters.

Since the essential problems of water quality centre on the environmental impact caused by human use of the rivers, the core issue is the linking of sustainable development to the qualitative attributes of water supply, especially the control of pollution. These concerns have been the object, for example, of European Union legislation, and progressively of more bilateral and multilateral treaties.[61]

The problem of States sharing quantum has often been at the centre of negotiations and disputes due to geographical features: States are positioned differently in relation to the water, either as upstream or as downstream States.

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[61] E.g. the 1993 CE Lugano Convention.

This conditions the uses of the water, and consequently the legal positions adopted by individual States at the international level.[62]

1.4 Causes for Conflict Re-examined

The need for co-operation is evident with 145 States having territory within international basins: 22 of them in their entirety, and 33 with more than 95% of their territory.[63] From the 261 international basins in the world, 19 are shared between five or more riparian States, the Danube being the most challenging, with 17 co-riparians.

Conflicting interests over water resources can become a serious cause of tension and many recent studies on the global water crisis and on environmental security have focused on the potential for conflict in international basins.[64]

1.4.1 Greatest Threats

Among the factors and circumstances that alone or combined can trigger tension between States are water scarcity, water pollution, unequal water distribution, water extremes, such as floods and droughts, and the building of major development works such as dams.

The lack of clean fresh water or access to it – associated with poverty – has led to political instability and occasionally to violence. Disputes over water have occurred within national borders, generally between religious, ethnic, or tribal groups, different water use sectors and states or provinces.[65] But as water quantity diminishes and its quality deteriorates, internal pressures and instability may become regional and escalate into international disputes.

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[62] See *infra* s.1.4.2, and s.2.2.

[63] Wolf, *et al.* (1999).

[64] E.g. Gleick (1993) and (1999).

[65] Wolf (2002), 3.

Disparities between riparian States in relation to the level of economic development, infrastructural capacity or political orientation may complicate international water resources management and development, and for this reason negotiations may be difficult.[66] Existing treaties and institutions are at times considered inefficient or ineffective, thus causing tension in diplomatic relations.

A recent study reached the conclusion that the institutional capacity within a basin, whether water management institutions or other treaty arrangements, or generally friendly relations with its neighbours are as important, if not more important, than the physical aspects of the system.[67] Furthermore, tension between riparians occurs when the rate of change within a basin exceeds the institutional capacity to absorb the change. Thus, the most significant indicators of potential conflict are related to extremely rapid changes, whether institutional or in the physical system.

The most rapid institutional changes relate to 'internationalised' basins, i.e., those which used to be national but are abruptly divided between two or more States. This is the case with the Amu Darya and Syr Darya Rivers which became rivers shared among five different States – Kyrgyzstan, Tajikistan, Uzbekistan, Turkmenistan, and Kazakhstan – after the dissolution of the Soviet Union.

As to the physical system, the most rapid changes are frequently the development of a large dam or diversion project, which may bring about a wide variety of consequences, including transboundary harm. In this case, if a joint institution or mechanism exists and if the States are engaged in friendly relations, the adverse or negative effects of the project may be mitigated; whereas if there is no institutional arrangement and States interact with some hostility, the project may create or aggravate tension or give rise to conflict.

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[66] See *infra* s.1.4.3.

[67] Wolf (2002), 9.

1.4.2 Upstream *v.* Downstream States: the Continuing Pressure

International rivers flow through the territory of two or more States and, more often than not, are conveniently used to mark the borders between them. But the same rules of the international law of watercourses apply to both contiguous and successive rivers. This is because any action taken by a State to modify the natural water régime may have repercussions in other parts of the watershed. The potential consequences may be felt not only on the principal course of the river, but also on the entire system of tributaries in the catchment area.[68]

Two or more States may have jurisdiction over portions of a geographical area which constitutes the catchment area for a single river. In the absence of a co-operative approach to the development of the river basin, one or more of these States may be placed at a disadvantage. Water control projects, such as flood protection works, dams, locks and weirs, or soil conservation, in one country may adversely affect the territory or water uses of another through which the same river flows. Disposal of sewage or industrial waste into a river by an upstream State, or the transfer of water from one basin to another, may adversely affect other State's domestic water supply, irrigation requirements, power generation, and so forth. The withdrawal of groundwater in one State may reduce the available riverine water in another State. Hydrological system interconnectivity is such that the use by a riparian State of the watercourses conditions other riparian State's use and development of its resources.

In a number of these cases the works and conditions downstream may adversely affect upstream States.[69] But in most cases it is the upper State's actions or omissions that have a larger impact downstream. Thus, it is usually the downstream State that has greater interest in co-operating through joint planning for the drainage basin, as it may suffer the consequences in case of an upstream State's planning with poor or no regard to the interests and needs of the downstream State. However, the downstream State may also benefit from

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[68] For river basin management issues, see generally Newson (1997).

[69] For instance, by preventing or limiting not only navigation, but also fish migration, timber floating, and by causing floods, siltation, and spread of insects or other transmitters of disease. For a description of these cases, see the 1982 Schwebel's Third Report, 101-2, paras.146-52.

the increased value resulting from the upstream State's works, such as dams to minimise irregular flow damage, and thus the upstream State may ask in some cases for compensation for the benefits provided from the works of regularising the discharges which improve the conditions downstream. Hydraulic developments also alter the natural water flow régime of the watercourse, reducing the average annual flow, diminishing the seasonable variation of the flow, altering the time of occurrence of extreme flows, reducing the impact of floods, and imposing non-natural discharges.

The modification of the flow régime leads to the alteration of the velocity and depth of drainage, of the transport of sediment and morphology of the bed, of the temperature and quality of water, and thus affects the aquatic ecosystem. Therefore, in some instances, it is critical that the upper riparian State ensures the discharge of a minimum flow during the year, in most cases an environmental flow. The principal difficulty with this is to reach an agreement between the riparians on the figures for the minimum flow. This consists of defining the levels of alteration of the natural water régime considered acceptable, while taking into account the impact on the fluvial ecosystems that the alteration will induce.[70] In addition, a large number of watercourses suffer from highly variable seasonal and annual flow, thus making co-operative efforts at the management level crucial for achieving an optimal utilisation of the river's waters to the benefit of all riparian States, while using the water in a sustainable manner.

Due to having control over the flow, it is the upper riparian that has, in most circumstances, a more powerful position to negotiate with the lower riparians over the non-navigational uses on the watercourse concerned. Interestingly enough, the opposite occurs in relation to navigation. In other words, it is the lower riparian that controls navigation.[71]

In the dry season, the water may be retained in the reservoirs of the upstream dams. In the rainy season, there may be discharges which are of high flow in a short period of time. This is the reason why negotiations frequently prescribe what to do in extreme circumstances. In the case of significant discharges from upstream dams, for instance in the case of floods, a previous agreement may be

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[70] Bearing in mind the level of uncertainty still existing in this area, especially as to quantum.

[71] McCaffrey (2001), 46.

required or at least advance notice. In the case of droughts, the water should not be fully retained, and it may be argued that at least the environmental flow should be guaranteed.

Other factors aggravating the ongoing tension between upstream and downstream States include the evaporation of waters from rivers, long-term shortage of water, soil salination, mismanagement or inefficient irrigation schemes, dependence on sophisticated technology for development, water flow obstructions in watercourses, shallow river restrictions, the reception of effluents, aquifer pollution, and the lack of a sustainable cyclical re-utilisation of particular rivers.

In the case of the Incomati basin,[72] as with some other basins in the African continent, disasters caused by extreme floods and droughts are very frequent.[73] These circumstances stress the need for basin-wide co-operation in its different forms, for instance through effective exchange of real-time information in order to mitigate the effects from floods.

1.4.3 Diplomacy and Bargaining Power

In negotiations, the interests the State wants to protect will determine the level of its involvement. Control over the headwaters, or actual control over a large proportion of the river flow, its economic power and development, or the dependence of a State on a particular dam or series of dams to satisfy its needs (whether in the form of electricity generated by hydro-power, irrigation, water supply and sanitation for populations or navigation) will lead the State to adopt a certain position at the negotiating table. The position of States as upstream or downstream is also critical to the strategy they adopt in negotiations. States may choose to develop closer co-operation if they have already developed friendly relations. But the opposite is also true. If States have essential national interests to protect and a history of disputes or even of conflict, the development of a shared water régime and closer forms of co-operation may

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[72] Shared between South Africa, Swaziland and Mozambique, the lowest State.

[73] Such as the floods of February 2000 or last year's prolonged drought in southern and central Mozambique with more than 800,000 people estimated to be particularly at risk.

assist the building of bridges, which in turn may improve state relations overall.

The Ganges-Brahmaputra river basin, for example, is home to an estimated 400 million people. Little regional co-operation has existed, in particular concerning crucial issues, such as the way to allocate water flows, to address the often devastating floods, or to utilize the hydro-power potential of the upstream States. After decades of discussions, the riparians repeatedly failed to reach agreement.[74] For decades, India has refused to negotiate simultaneously with Nepal and Bangladesh on the use and development of shared water resources. By relying only on bilateral negotiations, India can adopt a different position when negotiating with Nepal or Bangladesh since its interests change with its position in relation to the watercourse (upstream or downstream). A multilateral negotiation would expose this inconsistency.

The Farakka barrage was built by India in the late 1960s and early 70s, without consulting other riparians, across the river Ganges upstream from the border with Bangladesh, with the purpose of diverting water into the Hooghly River for irrigation and to improve navigation. But the dam caused serious effects on agriculture and food production in Bangladesh as it affected the flows in the dry season. Following the independence of Bangladesh several temporary agreements were concluded. But it was only in 1996 that India and Bangladesh signed the Treaty on Sharing the Ganges Waters at Farakka which specifies water allocations of the Ganges in normal and dry periods, stipulates rules regarding the operation of the Farakka Barrage, and creates a Joint Committee to observe and record at Farakka the daily flow in different locations.[75] Any difference or dispute not resolved by the Joint Committee is to be referred to the Indo-Bangladesh Joint Rivers Commission and if necessary to the two Governments. In addition, the Parties recognised 'the need to co-operate with each other in finding a solution to the long-term problem of augmenting the flows of the Ganga/Ganges during the dry season' (Article VIII), and agreed to conclude water sharing agreements concerning other common rivers (Article IX).

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[74] See also *infra* s.5.3.2.

[75] See Salman and Uprety (1999) and (2002).

The resolution of this important difference, which had persisted for decades, created an atmosphere for discussing and for reaching agreements on other water resources issues, and in relation to other rivers.[76] However, the option for bilateral negotiations with no multilateral talks will continue to prevent an integrated and river basin-wide water resources management approach.

Another example is that of the Incomati river basin,[77] located in southeast Africa. Compared to other international river basins, it is relatively small with an area of about 46,700 Km^2. Its drainage area is shared between the Republic of South Africa (28,600 Km^2, 61%), the Republic of Mozambique (15,600 Km^2, 33%), and the Kingdom of Swaziland (2,500 Km^2, 5%).[78] As developments of water resources in the basin continue and water use intensifies, issues of both water quantity and quality need increasing attention and should be discussed and negotiated between the States concerned. In the past decade, water scarcity has become more severe with water abstractions reaching very high levels and the effects of droughts more evident. But floods also occurred, with dramatic effects, such as those in the year 2000. Thus, issues such as inter-basin transfers of water, which have taken place without agreement or compensation to the downstream users, or the need to maintain a minimum flow, such as that from South Africa at the border with Mozambique, are fundamental and require negotiation between all riparian States.

The different bargaining power of the riparians stems from a range of factors, such as the different stage of development and consequent relative economic power, the different position in relation to the watercourse and infrastructural capacity, and the adverse weather conditions of recent years.

The political history of each riparian State as well as the evolution of their international relations, in particular on water-related matters, have been over the last decades quite unstable at times. Mozambique experienced the transition from Portugal's overseas territory to an independent democratic State. South Africa has lived through the end of the apartheid régime. These

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[76] *Ibid.* (1999), 341-2.

[77] For a detailed study, see Carmo Vaz and van der Zaag (2003). For an overview of the main issues relating to South Africa's transboundary rivers, see e.g. Turton (2005).

[78] These riparian States also share other basins, namely the Umbeluzi and the Maputo basins.

changes contributed to the formation of States' water policies and legislation as well as relations with their riparian neighbours.

The three Incomati basin States are at present members of The Commonwealth. After its first democratic elections in 1994, Mozambique was admitted in 1995.[79] Although it has experienced a remarkable economic recovery in the past decade, it still is one of the least developed and poorest countries in the world. Among the key problems in the basin is the dependency of Mozambique, the downstream riparian, on the water from international rivers, particularly the Incomati.[80] In addition, the lack of national institutional capacity hinders effective integrated management. This is reflected, for instance, in the limited data available.

By contrast, South Africa, which rejoined The Commonwealth in 1994, has plenty of resources and is one of the 50 wealthiest countries in the world. However, beyond four developed areas, there is not much development and poverty still exists. With this large income gap, South Africa is considered a developing State. It is also Africa's largest energy producer and consumer.

As a former British protectorate which became independent on 6 September 1968, Swaziland is today an absolute monarchy. This small landlocked State, where subsistence agriculture occupies more than 80% of the population, is heavily dependent on South Africa. About 90% of its imports come from South Africa, to which Swaziland sends more than 60% of its exports. Some of the most difficult problems at present, and likely to continue in the future, include soil depletion, droughts, and occasional floods. In 2002 alone, more than 25% of the population needed emergency food aid due to drought.

In 1999, discussions began between Mozambique, South Africa, and Swaziland to reach an interim agreement for the Incomati and Maputo basins, that is, an agreement intended to be in force until other more comprehensive water agreements are reached for both the Maputo and Incomati basins. After a long, and occasionally difficult, process of negotiations, and the results from a joint

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[79] Mozambique is the only member which has never had any constitutional relationship to either the British Empire or a Commonwealth member, but it had the support of its neighbouring States.

[80] See generally on Mozambican water resources, http://www.fao.org/ag/agl/aglw/aquastat/countries/mozambique/.

basin study, the Tripartite Interim Agreement on the Protection and Sustainable Utilization of the Water Resources of the Incomati and Maputo Watercourses was signed.[81] An existing joint body, the Tripartite Permanent Technical Committee, is given the responsibility of implementing the agreement. Since all States are members of the SADC, they are bound by the 2000 Revised Water Protocol, a framework convention.[82] Even so, many concrete and problematic issues are still to be resolved.

1.5 Transforming Threats into Opportunities: Co-operation in Practice

1.5.1 Introductory

While tension is inevitable when dealing with international water resources matters, water has proved throughout history to be more often a factor contributing to the improvement of international state relations than one giving rise to or aggravating tensions.[83] Hence, water-related tension between States offer an important window of opportunity for strengthening state relations and regional co-operation.

This is particularly relevant since the idea that 'the wars of the [21st] century will be fought over water'[84] seems to have gained ground. The choice of words here was certainly not casual. The reference to wars alone has undoubtedly served the purpose of raising international attention and awareness of potential conflicts and water-related problems which could be prevented were States prepared to co-operate pre-emptively.

Nevertheless, the patterns of conflict resolution point not to war but to the conclusion of treaties and the creation of joint institutions which have proved to be resilient over time and during periods of tense relations. In fact, '[t]he

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[81] The 2002 Incomaputo Agreement.

[82] See *infra* s.3.2.4.5.

[83] This is the conclusion of several studies. See, e.g. Wolf (1998), or Hassan (2003).

[84] First attributed to Ismail Serageldin, Former Vice-President of the World Bank, who in 1995 stated 'If the wars of this century were fought over oil, the wars of the next century will be fought over water'. This quote has been used repeatedly in different discourses.

choice exists for transboundary riparians between unilateral development that will lead to a crisis or institutional capacity-building and diplomacy'.[85] Water is a resource that, 'by its very nature, tends to induce even hostile co-riparians to co-operate, even as disputes rage over other issues'.[86] This may be illustrated by the Permanent Indus River Commission which was created by the 1960 Indus Waters Treaty and continued its work throughout several wars between India and Pakistan;[87] or the Committee for Co-ordination of Investigations of the Lower Mekong basin, established in 1957 by the four lower riparians,[88] which functioned throughout the Viet Nam war, and only in 1975, at the end of the war, interrupted its work while its Secretariat continued operating.[89]

1.5.2 The Paradigmatic Case of Dams

Several uses of fresh water, such as hydro-power generation and irrigation, require the planning, design, construction and operation of dams. Dams raise many important issues – particularly in international settings – that are less likely to arise in other water management contexts: environmental problems, such as pollution; social problems, such as displacement of populations; financial problems, such as those related to conservation and paying for the dam itself; cultural problems, such as the conservation of cultural heritage sites. These and other potential impacts of dams may be felt on the territory of more than one State, and may require co-operation in accordance with international legal obligations.

Although the benefits of dams are numerous and widely acknowledged, there has been criticism of dam effects, especially those of large dams.[90] Even though dams aid regional development, by providing water and energy, by creating jobs

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[85] Wolf (2002).

[86] *Ibid.*, 3.

[87] E.g. the second Kashmir war of 1965, the Indo-Pakistani war of 1971, the continued Siachen conflict which began in 1984, and the Kargil war of 1999. For the Indus basin case, see *infra* s.5.3.2.

[88] The Statute of the Committee was adopted at Phnom-Penh, on 31 October 1957. UN (1963), 267-70.

[89] For the evolution of institutional co-operation on the Mekong, see e.g. Le-Huu and Nguyen-Duc (2003).

[90] For a strong criticism of large dams and a eulogy to the irrigation systems of traditional societies, see Goldsmith and Hildyard (1992).

and developing industry, the debate on dams questions whether their benefits justify the costs. The World Wide Fund for Nature (WWF), in their characteristic assertive fashion, contends that 'the true cost of a dam never shows up on a balance sheet'.[91] By 'true cost' they are primarily referring to environmental and social costs.

Thus, for the purposes of examining how the obligation to co-operate is translated into concrete acts and is implemented in different regions under different circumstances, the paradigmatic case of the construction and operation of dam projects will be examined.

The project management, planning, calculation, design, construction and operation of a dam require a multidisciplinary team. Ultimately, civil engineers are responsible for the structure of the dam. But several other specialists are involved in the project of a dam and that of a power plant by providing information and advice. These include geologists, geotechnical engineers, hydrologists, surveyors, economists, who calculate the costs of the project, environmentalists, biologists, and conservationists, who consider the effects that a reservoir and a power station will have on the local environment including fauna and flora. In addition, for hydro-electric power plants, the work of mechanical and electrical engineers is essential. Finally, the contribution of lawyers, who prepare all the contracts, is necessary, as well as that of politicians, who eventually assess and decide the fate of the project.

When a dam is constructed on an international river, due to its potential impact on other States' territory, the planning and execution of the project may require cross-border procedures. This process of international co-operation may include notification and provision of information, consultation, and negotiations.[92] Those involved include statesmen and diplomats, representing their States' interests; technical experts from national water resources administrations, river basin authorities or international joint commissions; civil society, through non-governmental organisations, affected peoples' groups, private sector companies; and international organisations. These may participate in specific projects for a wide variety of purposes, such as financing (World Bank); project consulting services (FAO or UNESCO); or may participate

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[91] Advertisement in *The Economist*, 19-25 July 2003, 85. See also www.panda.org/dams.

[92] See *infra* Ch.4.

in the process *lato sensu*, through studies and knowledge dissemination (the WCD or ICOLD).

1.5.2.1 Introduction

The number of large dams constructed in the past 50 years has increased dramatically. The International Commission on Large Dams (ICOLD)[93] estimated that by 1998 there were more than 45,000 large dams worldwide,[94] and 800,000 small dams.[95] A large dam is defined by ICOLD as a dam with a height of 15 metres or more from the foundation, or with a height between 5 and 15 metres, and with a reservoir volume of more than three million cubic metres.

Over 60% of large dams have reservoir surface areas of up to 1 km^2, including run-of-river dams with no reservoir, and only 2% of dams have reservoir areas larger than 100 km^2. In the first half of last century, the average height, reservoir volume, and reservoir area increased in all regions. The average height of new dams was estimated at 30 to 34 metres from 1940 to 1990, but increased to about 45 metres in the 1990s, mostly due to new projects in Asia. The average area and volume of freshwater reservoirs have also gradually increased: between 1945 and 1970 it raised to about 50 km^2; in the 1980s it declined to 17 km^2; but in the 1990s it increased again to about 23 km^2.[96]

Hydropower is the source of about 19% of electricity in the world as a whole, but over 90% of electricity in 24 countries from different continents, such as Brazil, Congo, Honduras, and Tajikistan,[97] and over 50% in 63 countries.

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[93] Established in 1928, this NGO is the world's leading professional organization dedicated to 'the art and science' of dam engineering and water resources management. See ICOLD's website at http://www.icold-cigb.org/.

[94] In the latest edition of the World Register of Dams, there are 33,105 registered dams. See ICOLD (2003).

[95] See ICOLD (1998). States with large dams include China with 22,100, the USA with 6,390, India with over 4,000, and Spain and Japan with 1,000-1,200 each. More than half of the total number of dams are located in developing countries, some of them pursuing a significant dam-building program. States with the greatest number of large dams under construction include Turkey, China, Japan, Iraq, Iran, Greece, Romania, Spain, and the Paraná basin riparians. The river basins with the greatest number of large dams under construction are the Yangtze River with 38 dams, the Tigris and Euphrates with 19 dams, and the Danube River with 11. Revenga, *et al.* (2000), 17.

[96] ICOLD (1998), and WCD (2000), 15.

[97] WCD (2000), 14. Gleick (1999), 276-280, speaks of 18% and 18 countries.

Brazil, Canada, China, Russia, and the United States of America alone account for more than half of the hydro-power generation in the world.[98]

Although reliance on hydro-electricity varies, it is important to take into consideration the different countries' demand for electricity, since the installed hydro-electric capacity and the hydro-electric production also vary greatly. In addition, annual hydro-electricity generation depends on the annual flow of water in the river, which varies from year to year, and on the different forms of operating the dam.[99]

The interruption of the natural flow of a river by dams, inter-basin transfers or water withdrawal is called river fragmentation, and indicates the degree to which a river system has been affected by man. Strongly fragmented river systems are 'those with less than one quarter of their main channel left without dams, where the largest tributary has at least one dam, as well as rivers whose annual flow patterns have changed substantially.'[100] This may be illustrated by the Yangtze River on China after the completion of the Three Gorges dam project.[101]

But in addition to rivers, inland waters, such as the Aral Sea, Lake Chad, or the Mesopotamian Marshlands, also have their ecosystems affected by man. The size of these waters as well as their functions have declined. The only rivers considered unaffected are those which have no dams on their main channel, or where despite dams on the tributaries the total river discharge has declined by less than 2%.[102] Examples include parts of the Amazon, the Orinoco, and the Congo.

A study of river fragmentation in 2000[103] on 227 rivers showed that 37% of the rivers were strongly affected by fragmentation and altered flows, 23% were moderately affected, and 40% were unaffected. Strongly or moderately

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[98] WCD (2000), 14.

[99] Gleick (1999), 276

[100] Revenga, *et al.* (2000), 17.

[101] *Id.* On the issues raised by this dam, see *infra* 1.5.2.3

[102] Revenga, *et al.* (2000), 17.

[103] Study commissioned by the World Resources Institute and carried out by the University of Umea, Sweden. Revenga *et al.* (2000), 17.

fragmented river systems corresponded to almost 90% of the total volume of water flowing through the rivers analysed.[104]

Although most dams are built on national rivers, those situated on international rivers may have significant effects upstream and downstream and may affect other States.

1.5.2.2 Reasons for Dam Construction and Operation

1.5.2.2.1 Historical Context

Dams have long been considered essential for managing and controlling freshwater resources. Their construction commenced as early as 3000 B.C.[105] Ancient embankment or gravity dams were constructed throughout all continents[106] mainly for the purpose of water supply, flood control, soil and water conservation, and later irrigation. Some of these dams have been over 2000 years in operation.[107] Over the centuries, other types of dams appeared, such as the arch and buttress dams introduced by the Romans.

But it was in the twentieth century that water policies prioritised dam projects for development purposes. Although in the 1950s the number of dam projects had already doubled, it was during the 1960s and 1970s, the golden era of dams worldwide, that construction reached its peak.[108] The number of dams constructed decreased slightly in the 1980s and 1990s, but today the global annual average is still of about 160 to 320 new large dams.[109]

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[104] *Id.*

[105] With the gravity Jawa Dam in Jordan. On the history of dams, see e.g. Schnitter (1994).

[106] Ancient dams were constructed in Egypt, Iran and Pakistan, Yemen, Greece, Turkey, Israel, Iraq, Mexico, China, Sri Lanka and Sudan. For a chronological list of dams, see Schnitter (1994), 235-8.

[107] E.g. the Greek embankment Kofini dam built in 1260 BC for flood control is still operating today; as is the Chinese embankment Anfengtang dam constructed in 581 BC for irrigation. Schnitter (1994), 52-55.

[108] See WCD (2000), Annex V, 369.

[109] *Ibid.*, 10.

1.5.2.2.2 Purposes of Dams

Dams are constructed for several purposes, and often as multi-purpose projects. They serve as reservoirs and thus for water storage for supply and sanitation to populations, for irrigation, for the production of electricity, and for industrial uses, in particular in times of drought. They also serve to regulate the flow, and thus prevent or control flooding, but also to control other hydrological extreme events, such as droughts or ice drifts. One of the methods used to minimize damage caused by floods is to construct reservoirs to withhold flood waters temporarily and release them later on in amounts that fill the channel. The lake created by the dam may be used as an amenity lake, and thus may benefit tourism by allowing the practice of some water sports and fishing. Lakes may also move the water back into channels in times of drought.

In a nutshell, dams store, use and divert water for consumption, irrigation, cooling, transportation, construction, mills, electricity, and recreation.

Half of existing large dams were constructed exclusively or primarily for irrigation purposes. It is estimated that 30% to 40% of the 268 million hectares of irrigated lands all over the world depend on dams.[110]

Figure 1: Distribution of existing large dams by region and purpose. Source: WCD (2000), 12, adapted from ICOLD (1998).

[110] See WCD (2000), 12-3, and Annex V.

1.5.2.2.3 Types of Dams

Most large dams may be categorised as reservoir projects for storage or 'run-of-river' dams which often have no storage reservoir and may have limited daily capacity. Within these two types of dams there is a significant variety as to scale, design, operation, and potential for adverse impact.

Reservoirs hold water behind the dam for seasonal, annual, and in some cases multi-annual storage and regulation of the river flow. Run-of-river dams, such as weirs and barrages, and run-of-river diversion dams, raise the level of the water upstream and generate a hydraulic head in the river to divert some of the water flow to a canal or power station.

The main types of dam are arch dams, made from concrete; buttress dams, made from concrete or masonry; embankment dams, made mainly from natural materials such as earth or rock; and gravity dams, made from concrete or masonry, or sometimes both.[111]

The most common types of dams as to their construction materials are: earth, which includes clays, sands, gravels and silts, and soils made up from a mixture of these; concrete; masonry, which are made from stone and mortar or cement; and rocks.

The decision on the type of dam to be constructed depends on the purpose and on technical criteria concerning the location for construction. Essential factors include the adequacy of the abutments in the margins to fix the dam, and conditions upstream for the establishment of a reservoir for water storage.

For a dam built for water storage, or for both water storage and the production of hydro-electricity, another essential factor is the availability of sufficient water for its functioning. In the case of a dam constructed for agricultural purposes, the dam must be located in the area to be irrigated.

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[111] See the glossary and the British Dam Society website at http://www.britishdams.org/about_dams/types.htm.

In the case of dams built for hydro-electricity production there are also other aspects to consider. These are, *inter alia*, the flow of the river and the hydraulic head throughout the year; the inclination of the river in the location where the dam is to be built; the characteristics of the reservoir, notably its storage capacity; the availability of construction materials for the type of dam to be built.

1.5.2.3 Dam Impacts

Dams may have negative impacts not only on a river basin but on entire regions, upstream and downstream.[112] Power plants and other works may add other adverse effects. The nature and extent of the impacts differ considerably. Most upstream effects are immediately noticeable, whereas downstream effects are generally more complicated to assess. These effects include the flooding of inhabited areas, resulting in displacement of population; the flooding of industrialised areas, often causing serious environmental problems due to water contamination; siltation; salination; the change of water quality and temperature; the division and damaging of riverine ecosystems; the reduction or destruction of fish stocks; the change of the pattern of floods, drainage and flows; on wetlands and on river navigation.

Due to its foreseeable adverse impacts, the most controversial project of recent years is the Three Gorges Dam and power plant on the Yangtze River in China, the longest river in Asia. The dam was completed in the summer of 2006 and its power plant is expected to be completed by 2009. This power plant will be the major source of electrical power for China reaching 18,200 MW of installed capacity.[113] This is the most ambitious engineering project since the Great Wall. Growing population and industrialization necessitate an increase in the production of hydropower, which has become a national priority. Besides the clear benefits of flood control and electricity production, the dimension of the project and its impact have been the target of strong criticism. The adverse effects are of great proportions, as the dam will have, in particular, major environmental and social impact: over 1,000 villages, several towns,

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[112] For arguments against dams, see e.g. Pearce (1992), or McCully (2001).

[113] Acording to the project, the power plant will produce 84 billion kWh/year with its 26 turbines of 680 MW each - 20 MW less than the machines of Itaipú, still the largest power plant in operation in the world, which have 700 MW each.

archaeological sites, and farmland will be submerged and about 1.3 million people displaced.[114]

This is a national project with no apparent transboundary effects. In the past, China has stressed its absolute territorial sovereignty over its water resources, and also in relation to its shared resources,[115] such as the Mekong River, and it has acted accordingly. Thus, and without the financial support from international institutions, which impose conditions for financing large dams, China has decided to proceed with a project which would most likely not meet the criteria recommended by the WCD to assess whether a dam project should be executed.

1.5.2.4 The Debate on Dams: the Report of the World Commission on Dams

Dams, and large dams in particular, have become in the past decade the focus of an intense worldwide debate, reflecting the growing concern of the international community over the effects caused by dams. This has led to several global initiatives with the purpose of discussing the benefits as well as the costs of dam projects, in particular their environmental and social impact. The most significant example is the joint workshop organised by the World Conservation Union (IUCN) and the World Bank in April 1997 for debating several problems related to dams, which led to the establishment of an *ad hoc* independent body in 1998, the World Commission on Dams (WCD). The different interest groups represented ranged from private sector and governments to academic institutions and NGOs, as well as the World Conservation Union and the World Bank.

The Commission had specific objectives: to review the development effectiveness of large dams on national and international watercourses, and assess alternatives; to develop a framework for assessing options and decision-making processes for water resources, energy services and

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[114] Roger Cohen's article 'Perils of ambition in China's provinces', in the *International Herald Tribune*, 16-17 December 2006, 2. He summarises the ambivalence towards the dam project questioning whether 'China [is] the great despoiler of the environment or ... the world's great development engine?'.

[115] For this position on water rights, see *infra* s.2.2.1.

development; and to develop internationally-acceptable criteria and guidelines for planning, designing, construction, operation, monitoring, and decommissioning of dams.[116] In other words, the rôle of the WCD was to research, review, debate, write and endorse policy guidance at a global level.

The WCD brought all stakeholders involved in the dams debate together in a unique process and has conducted the most comprehensive and independent review of the experience with large dams to date. It produced the report Dams *and Development: a New Framework for Decision-Making,* approved by consensus. This report reviews the performance of dam projects and presents a new framework of recommendations for integrating economic, social and environmental considerations into options assessment and the planning of projects in the water and energy sectors, that is, for decision-making based on recognising rights and assessing risks of all interested parties.

The WCD had no mandate to develop international law nor was it a law-making body. The report provides recommendations to Governments and it is not a legally binding document. Yet the Commission relied on a number of international law instruments. For example, when it recommended co-operation between States, it made several references to the 1997 UN Watercourses Convention.[117]

The report is composed of two parts. Part I reports fact-findings on large dams. Part II focuses on future practice and recommends seven strategic priorities, all together containing 26 guidelines for future dam development projects. Strategic Priority 7, entitled 'Sharing Rivers for Peace, Development, and Security', expressly focuses on international rivers. Its key message states that: 'Storage and diversion of waters on transboundary rivers has been a source of considerable tension between countries and within countries. As specific interventions for diverting water, dams require constructive co-operation. Consequently, the use and management of resources becomes the subject of agreement between States to promote mutual self-interest for regional co-operation and peaceful collaboration. This leads to a shift in focus from the narrow approach of allocating a finite resource to the sharing of rivers and their associated benefits in which States are innovative in defining the scope of

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[116] WCD (2000), 28.

[117] *Ibid.*, 251.

issues for discussion. External financing agencies support the principles of good faith negotiations between riparian States'.[118]

The Commission considered that several policy principles were necessary in order to implement this strategic priority. These included that agreements should be negotiated in good faith between riparian States based on the principle of equitable utilisation, the obligation not to cause significant harm and the obligation of prior notification. The WCD recommended that States co-operate in shared river basins and that they conclude basin-wide treaties. In addition, it recommended that States ratify the 1997 UN Watercourses Convention, since it considered this Convention as codifying 'an emerging body of customary law'.[119]

Although five of the eight dams which were studied by the Commission are built on international rivers, the recommendations relating to this Strategic Priority 7 are not based on any studies of state practice. This fact evidently limits their significance.

The Report has also been the target of criticism of its nature. The final WCD Forum revealed that a gap existed in perceptions and evaluations of the report among various interests groups.[120] Most environmentally concerned NGOs appreciated the guidelines and demanded that governments and financial institutions should adopt the guidelines as their own norms. On the other hand, observations of some governments and dam construction companies to the report have been negative or sceptical, particularly in term of the guidelines' feasibility.[121]

The mandate of the WCD ended with the launching of its Report. But the 80 participants of the final WCD Forum meeting agreed that the momentum and work of the WCD should continue, although the emphasis should shift from policy analysis to practical application, notably to dissemination of the report and facilitation of exchange of information. So UNEP agreed to initiate in November 2001 a follow-up process, the Dams and Development Project

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[118] *Id.*

[119] *Ibid.*, 252.

[120] Fujikura and Nakayama (2003).

[121] For an examination of the 26 guidelines, see Fujikura and Nakayama (2002).

(DDP).[122] This consists of an independent network[123] which promotes a continuous dialogue on improving decision-making, planning and management of dams and their alternatives based on the WCD core values and strategic priorities at local, national and global levels.

[122] See generally their website at http://www.unep-dams.org/.

[123] The mandate of the DDP does not permit it to take positions or to judge individual projects or associated practices.

2

Co-operation and the Law of International Watercourses[1]

For good faith, in the language of Cicero, is not only the principal hold by which all governments are bound together, but is the key-stone by which the larger society of nations is united. Destroy this, says Aristotle, and you destroy the intercourse of mankind.
Hugo Grotius, *De Jure Belli ac Pacis* (1625)
Book III, Ch. 25: Conclusion

The purpose of this Chapter is to show how the principle of co-operation evolved in the context of the theories and practice of international water law, notably through its relationship with other general principles of public international law. It begins with an introduction to the evolution of international water law. In order to understand the extent to which sovereign States have the right to use the fresh water available within their boundaries, the relevant theories are described and assessed.

The relationship between the principle of co-operation and other important general principles of international law is then examined with the purpose of determining the scope of the obligation to co-operate in the context of international watercourses. These general principles include the principle of sovereignty and equality of States, permanent sovereignty over natural resources, equitable and reasonable utilisation, prevention of transboundary significant harm, the precautionary principle, sustainable development, good neighbourliness, good faith, and peaceful settlement of disputes.

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[1] This chapter is partly based on a paper presented at the Current Legal Issues Fifth Annual Interdisciplinary Colloquium – Law and Geography at University College London on 3 July 2001.

2.1 Historical Overview of the Law of International Watercourses

2.1.1 Water Regulation and Management Throughout History

In antiquity, civilizations developed along rivers throughout the world, such as the Ganges, the Indus, the Mekong, the Nile, the Tigris and the Euphrates and the Yangtze River.[2] Urban centres continuously increased in number, extension and population, and so did water demands. The water available was used predominantly for domestic and agricultural purposes. Artificial waterworks, from canals to water mills, aqueducts to subterranean *qanats*,[3] gravity dams to drainage systems, developed by different societies, spread to many parts of the world.[4]

Water regulation and management evolved in different societies and cultures throughout time.[5] Co-operation in early State societies consisted primarily in providing for cases of floods or droughts. The agreements concluded referred to the repair of embankments and the digging of canals, or the sharing of crops in order to prevent food shortages.[6]

Historically, many of the concepts and principles of water law were introduced through Roman law.[7] This is so, for instance, for the general freedom of use of public watercourses asserted in the period of the Principate.[8] Under the law of Justinian, the general prohibition on diverting water from navigable watercourses and their tributaries was codified in the *Corpus Iuris Civilis*.[9]

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[2] Teclaff (1967), 15; Caponera (1992), 212. On the history of water management and early civilizations, see also Hassan (2002).

[3] These consist of a 'subterranean system of tunnels connecting wells and dug using vertical shifts designed to collect and transport water, sometimes over distances more than 50 kilometres long, to extend farming to marginal desert areas by utilizing underground, long-distance transport of groundwater from mountain springs to low-lying farming land.' Hassan (2002), 8.

[4] *Ibid.*, 8-9.

[5] See Caponera (1992), Ch.2.

[6] Hassan (2002), 5.

[7] For the history of principles of water law, see generally Caponera (1992), Chs.2 and 3, and in particular for Roman water law principles, 29-43.

[8] 27 BC-186 AD; Ulpian, *Digest*, 39, 2, 24.

[9] Pomponius, *Digest*, 44, 12, 2.

2.1.2 From the Prominence of Navigation to Other Uses

Navigation[10] became important on national and international watercourses in conjunction with the development of the principle of free trade. At the Congress of Vienna, in 1815, the internationalisation of European rivers and lakes, which had been first proposed by Grotius in *De iure belli ac pacis*, was formalised, and navigational rights for nationals of the Parties on the Rhine and Danube were expressly recognised.[11] This internationalisation continued gradually and was extended to African rivers by different treaties.[12] This process was continued with the 1919 Treaty of Versailles[13] and the 1921 Barcelona Convention and Statute on the Regime of Navigable Waterways of International Concern, which was intended to become a worldwide régime.[14] However, due to historical circumstances and the particular interests of some of the States involved, it was ratified by only a few States.[15] Furthermore, the Statute did not consider navigation as an unconditional priority.[16]

From the eighteenth century on, with a rapid population growth and technical progress, the human uses of water have diversified and intensified. International treaties became crucial in regulating inter-state relations concerning the different uses of international watercourses, and their number increased considerably. Most of the treaties were mainly concerned with establishing watercourse boundaries or with navigation, but later agreements were concluded for regulating specific water utilisation methods, such as irrigation, flood control, or hydro-electric power generation.[17]

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[10] See *supra* s.1.3.1.

[11] 1815 Final Act of the Congress of Vienna, Articles 108 to 116.

[12] Notably in relation to the Congo and the Niger, the 1885 Act of Berlin, of 26 February 1885, CTS 165 (1885), 485; the 1890 Brussels Declaration, of 2 July 1890, CTS 173 (1890), 319; and the 1919 Treaty of Saint-Germain, of 10 September 1919, 8 LNTS, 25. Or in relation to other rivers, such as the Zambezi, Limpopo and Sabi. See 1890 Luso-British Treaty, CTS 175 (1891), 197, where European powers divided their spheres of influence in the African continent.

[13] See Articles 331 and 338.

[14] Jennings and Watts (1992), 580-2.

[15] These treaties were concluded in the end of the First World War, and reflected the interests of the Allied and Associated Powers in controlling the river network in Europe, as well as the possibility to restrict the territorial rights of the defeated States. See Caflisch (1989), 41.

[16] Bruhács (1993), 11.

[17] See *infra* s.3.2.5.

The increase in the non-navigational uses led to more disputes over water between users, and different – sometimes conflicting – uses.[18] Nevertheless, only thirteen decisions have so far been made by international courts and arbitral tribunals in disputes concerning or directly relevant to these non-navigational uses of international watercourses.[19] In addition to these international decisions, there have been several inter-state cases in the United States of America that had repercussions on international water law.[20]

The influence that international decisions have had in the development of the law of international watercourses has been paralleled by the contribution from writers. The works and opinions of writers such as Smith[21] and Berber,[22] who provided surveys of state practice, as well as of other scholars, such as Winiarski,[23] Garretson, Hayton, and Olmstead,[24] who also attempted to identify the rules applicable to international watercourses, demonstrate the complexity of the numerous issues that exist in this branch of the law.

2.1.3 The Contribution of Scholarly Associations and International Organizations

Since the nineteenth century, the international legal community has, through both scholarly associations and international organisations, paid great attention to the problems emerging from the uses and allocation of fresh water and the protection of the environment of international watercourses.[25]

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[18] Teclaff (1967), 113, and Caflisch (1989), 37. See *supra* s.1.3.2.

[19] They are the *Helmand River Delta* case (1872 and 1905), the *San Juan River* arbitration (1888) and case (1916), the *Kushk River* case (1893), the *Faber* case (1903), the *Diversion of Water from the Meuse River* case (1937), the *Trail Smelter* case (1938 and 1941), the *Lake Lanoux* arbitration (1957), *Gut Dam* arbitration (1969), *Gabčíkovo-Nagymaros Project* case (1997), and the *Kasikili/Sedudu Island* case (1999). For an examination of some of these cases, see *infra* s.3.2.6.

[20] See, e.g. Teclaff (1967), 87-90 and 193-201, and Fuentes (1996), 357-363. An important contribution was the introduction of the principle of equitable 'apportionment'. See McCaffrey (2001), 325, and *infra* s.2.2.3.

[21] Smith (1931).

[22] Berber (1959).

[23] Winiarski (1933).

[24] Garretson, Hayton, and Olmstead (eds.)(1967).

[25] Contribution to the development of doctrine has come from several associations and organisations. These include the 7th International Conference of American States and its 1933 Declaration of Montevideo; the Inter-American Bar Association and the 1957 Declaration of Buenos Aires; the Asian-African Legal Consultative Committee and the 1964 New Delhi Declaration; and the Council of Europe, and the 1967 European Water Charter.

Scholarly associations, in particular the Institute of International Law (IDI) and the International Law Association (ILA), have made a critical contribution to the development of the law of international watercourses, particularly in the last decades. Their study in the field originated from international disputes then emerging in different parts of the world.[26]

From the 1950s until 2004 the ILA worked consistently on the law of water resources.[27] Its most significant contributions to the field have been the 1966 ILA Helsinki Rules, later supplemented by subsequent resolutions, such as the 1982 ILA Montreal Rules on Pollution and the 1986 ILA Seoul Rules on international groundwaters. The 1966 ILA Helsinki Rules, notably through the elaboration of the principle of equitable utilisation, have played an important rôle in the codification and progressive development of the law of international watercourses. They have had a considerable impact on subsequent work in this branch of international law, notably on the 1997 UN Watercourses Convention and are still referred to by States. In 2004 the ILA Water Resources Committee adopted the Berlin Rules on Water Resources, its final and most comprehensive work on the topic, which revises all previous ILA rules on the subject. These Rules will remain an authoritative source of guidance and reference for States, international organizations, local governments, and water professionals.

In the late 1960s, the UN assigned the topic of the non-navigational uses of international watercourses to the International Law Commission (ILC) for further study.[28] After over twenty years of work on the subject, the ILC submitted to the UN General Assembly (UNGA) a document consisting of 33 Draft Articles and recommended its adoption as a framework convention.[29] The Sixth Committee of the UNGA, after receiving responses from some eleven States, convened as a Working Group of the Whole in order to produce a

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[26] Such as those involving the Columbia, the Indus, the Jordan, the Nile, and the Plata.

[27] For the contribution of the ILA to international water resources law, see Bourne (1996) and Bogdanović (2001).

[28] See UNGA Resolution 2669 (XXV), of 8 December 1970. This was further to Resolution 1401 (XIV), of 21 November 1959 which called on the Secretary-General to prepare and circulate a report on state legislation, bilateral and multilateral treaties, judicial decisions and arbitral awards, and studies in the subject-matter. This report was presented as *Legal Problems Relating to the Utilization of International Rivers*, UN Doc.A/5409 (1963), reprinted in *Yrbk ILC* [1974], Vol. II, Pt. 2, 33. See also UN (1963). For a detailed account of the events since the ILC began working on the topic, see Tanzi and Arcari (2001), 35-45.

[29] *GAOR*, 49th Session, Suppl. No.10 (A/49/A0), para.219.

framework convention.[30] Several meetings were needed to discuss controversial issues relating *inter alia* to the identification of the substantive rules that determined the rights and obligations of riparian states, the rules governing dispute settlement, as well as the extent to which procedural rules should be detailed.

In April 1997, the Sixth Committee finally adopted the text of the framework Convention on the Law of the Non-Navigational Uses of International Watercourses,[31] which was presented to the UNGA, and adopted on 21 May 1997.[32] The Convention is not yet in force.[33]

The 1992 Rio Declaration on Environment and Development and Agenda 21, for example, and the creation of some institutions, such as the World Water Council, reflect the attention that the international community is continuously paying to water issues at the global level, including the design of water policies and their legal implications.

2.2 The Relevant Theories on Water Rights

One of the key problems concerning international watercourses is defining the limits to the sovereignty of States over them. In applying the principle of permanent sovereignty over natural resources,[34] the issue is whether the right to the use of fresh water within the frontiers of each State can be restricted. Since river water is a dynamic natural resource, flowing from one country to another, the literal application of internally contained or static territorial concepts of sovereignty seems inappropriate. The limits, if any, of States' sovereignty have, however, been the subject of different theories which have developed over time, reflecting primarily the evolution of state practice. This raises the question of whether these theories developed because of geographical considerations or because of potential conflicts between men. As we will see,

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[30] For an analysis of the discussions in the Sixth Committee, see Tanzi and Arcari (2001).

[31] UN Doc.L.3/L.3ADD.1/CRP.94, Voting Record, Text of Convention as a Whole, Resolution A/RES/51/206 (4 April 1997).

[32] Resolution 51/229, of 21 May 1997.

[33] See *infra* s.3.2.4.3.

[34] See *infra* s.2.3.3.

the different theories reflect the evolution of States' attitude towards the principle of co-operation in the context of international watercourses.

2.2.1 The Theory of Absolute Territorial Sovereignty

The theory of absolute territorial sovereignty was advanced by some publicists in the nineteenth century. It also became known as the Harmon Doctrine,[35] when the Attorney General of the United States, Mr. Judson Harmon, elaborated it in his Opinion of 12 December 1895[36] on the current dispute with Mexico over utilisation of the waters of the Rio Grande. This theory asserts that a State has the right to use the waters of the rivers that flow through its territory without limitation, regardless of the effects such use causes to another State, whether downstream or contiguous.[37]

A commentator observed that this doctrine was in fact 'an assertion that, there being no rules of international law which governed, States were free to do as they wished',[38] but questioned whether this was ever part of international law. It seems to be based on the principle expounded in 1927 by the PCIJ in the *Lotus* case, that '[r]estrictions upon the independence of States cannot be presumed'.[39] After analysing the facts relating to the Harmon Opinion and a survey of state practice, McCaffrey also reached this conclusion, adding that Harmon, in his Opinion, 'did not deny – and in fact recognized – that there was a duty to refrain from harming other states'.[40]

The Harmon doctrine as commonly understood is an expression of the principle of full sovereignty of States over their national territories, and while it clearly favours upstream States to the detriment of downstream States' interests, it

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[35] See generally, e.g. McCaffrey (2001), 113-128, and Berber (1959), 11-44. For an in-depth analysis of the Harmon opinion, see McCaffrey (1996), and (2001) Ch.4, 76-111.

[36] US Opinions of Attorney-General, 21 (1893-97) 274.

[37] Although no assertion of this doctrine has ever been made in relation to contiguous watercourses, this theory would apply to the cases where the boundary between contiguous States lies on one of the banks of the river rather than on the median line or *thalweg*. McCaffrey (2001), 116, n.14.

[38] Lipper (1967), 22ff.

[39] That is, the burden of proof of the existence of an international rule limiting the action of a State lies with the claimant State. This principle has been criticised by authorities and contradicted by the views of the ICJ in the *Nottebohm* and *Fisheries* cases. See *Lotus* case, 18-19. See also, e.g. Brownlie (2003) 300-1.

[40] McCaffrey (1996), 766. For further criticisms, see, e.g. Berber (1959), 96.

rejects any obligation of co-operation. It ignores the fundamental natural conditions of watercourses, and has its foundation on individualistic concepts of unconstrained territorial sovereignty.

Although asserted by some States on a few occasions,[41] in most cases in the course of diplomatic negotiations, this theory has never been followed; not even by the USA.[42] In fact, the States that have affirmed this doctrine have afterwards entered into treaties based on different assumptions.[43]

The writings of publicists over time also reflect a decline in its support.[44] In our day there are no advocates of this theory.[45]

2.2.2 The Theory of Absolute Territorial Integrity

The theory of absolute territorial integrity on the other hand asserts that, while the State has rights over the water in its territory, it must conduct itself within its territory so as not to alter the natural features - that is, the course, volume or quality - of the river which flows to the territory of another State.[46] The exercise of the State's sovereignty over its natural resources is thus limited, and the right of the lower riparian State to the natural flow is sustained. The consequence is that where the natural flow is altered by the upper riparian State without the necessary consent of the lower riparian State, the former becomes liable for such conduct.

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[41] As referred to above, by the USA in a dispute with Mexico, by the Austrian Government in a dispute with Bavaria over the development of shared watercourses, by Chile in a dispute with Bolivia, or by India in its dispute with Pakistan over the Indus River and in the earlier phase of the negotiation with Bangladesh over the Ganges waters. See Lipper (1967), 21, and McCaffrey (2001) 116-123.

[42] See Lipper (1967), 22 and n.21. For an examination of US State practice, see McCaffrey (1996).

[43] See Lipper (1967), 22 and ns. 15 and 21, and McCaffrey (2001), 116-123.

[44] Mainly in the nineteenth century and until mid-twentieth century, from commentators from upstream countries.

[45] For an analysis of the evolution of the views of publicists, see McCaffrey (2001), 123-127.

[46] See generally McCaffrey (2001), 128-137, and Berber (1959), 19-22.

Among other publicists,[47] both Oppenheim's 7th and 8th editions edited by Sir Hersch Lauterpacht seem to support this theory. Oppenheim states as follows:

> But the flow of not-national, boundary, and international rivers is not within the arbitrary power of one of the riparian States, for it is a rule of International Law that no State is allowed to alter the natural conditions of its own territory to the disadvantage of the natural conditions of the territory of the neighbouring State. For this reason a State is not only forbidden to stop or divert the flow of a river which runs from its own to a neighbouring State, but likewise to make such use of the water of the river as either causes danger to the neighbouring State or prevents it from making proper use of the flow of the river on its part.[48]

This statement is based on the natural flow theory,[49] which operates to the advantage of the lower riparian States, and could have serious consequences on the upstream States. These are prohibited from developing their water resources should these affect the natural flow. One example will suffice to illustrate the point. Dam construction and operation, which is used among other purposes to regulate seasonal water levels, would depend on the consent of downstream States even though they may not reduce annual average flows.

Occasionally, the States invoke the theory of territorial integrity under concepts such as those of 'priority of appropriation', 'acquired rights' or 'historical rights'.[50] It has been invoked in four disputes between member states of the United States;[51] but the United States Supreme Court rejected the argument in all instances as being inapplicable as between constituent states of the federal

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[47] Berber refers to five authors. See Berber (1959). However, after close scrutiny, McCaffrey concludes that the doctrinal support of this theory is equivocal or written before state practice had developed considerably. See McCaffrey (2001), 133-135.

[48] Oppenheim (1948) 430, §178, (1955), 474-5, §178. See also §127 and the references therein. In the 1992 edition these statements remain the same. See Jennings and Watts (1992), 584-5. However, the editors introduced further developments based on case law pointing to a different interpretation of the statement concerned. In particular, reference was made to the limitation introduced by the Lake Lanoux arbitration that 'a neighbouring state cannot object to works carried out by another riparian, unless its own interests in the river waters are affected substantially', and to the 'principle of community of interest' set out in the River Oder case. See McCaffrey (2001), 134. But as the editors recognise that notions such as prior appropriation and vested private rights have not become general principles, the statement as such is misleading.

[49] Under this theory, based on the common law doctrine, 'the primary or fundamental right of each riparian proprietor of a watercourse is to have the body of water flow as it was wont to flow in nature, qualified only by the privilege of each to make limited uses of the water.' American Law Institute Restatement of the Law, Second, Torts (1977), Ch.41, §849, 210.

[50] See Chauhan (1981), 137, and McCaffrey (2001), 130.

[51] Colorado *v.* Kansas, 320 U.S. 383 (1943); New Jersey *v.* New York, 283 U.S. 336, 342 (1931); Connecticut *v.* Massachussets, 282 U.S. 660, 669-70 (1931); and Kansas *v.* Colorado, 206 U.S. 46, 100 (1907).

United States.[52] At the international level, this theory has been invoked in only a few cases by downstream States,[53] but there is no 'evidence of a State having accepted a diplomatic settlement based upon this theory'.[54]

Like the theory of absolute sovereignty, this theory does not imply any duty of co-operation; rather it demands from the upstream State an attitude of non-interference with the natural flow of the river, that is, of co-existence with its co-riparians.

2.2.3 The Theory of Equitable and Reasonable Utilisation

The theory of equitable and reasonable utilisation, also known as the theory of limited territorial sovereignty or integrity,[55] asserts that each riparian State is entitled to a reasonable and equitable share in the beneficial utilisation of the watercourses, the right of which is to be determined on a case-by-case basis in accordance with different relevant factors to be taken into account. This theory considers international watercourses as shared resources and requires the States to take into account the interests of the neighbouring riparian States, thus requiring 'some compromise of interest by all'.[56] States may, however, develop the river basin in their territory independently, that is, States do not need the consent of co-basin States to plan and build water works on their territory as long as these do not interfere with the co-basin States' rights to an equitable and reasonable share of the beneficial uses of the watercourse.

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[52] See Lipper (1967), 19-20.

[53] Namely, Egypt at the Nile Commission in 1925 and in a note to the United Kingdom dated 7 May 1929 regarding the Use of the Waters of the River Nile for Irrigation Purposes, although Egypt later renounced it. See UN (1963), No.7, 100-6; and Bolivia in relation to the Rivers Mauri and Lauca. McCaffrey argues that, although referred to by different writers, both the cases of Pakistan in relation to the Indus basin and Spain in relation to the Lake Lanoux were not examples of States invoking this theory. See Caflisch (1989), 51-2 and the references therein, and McCaffrey (2001), 130-133.

[54] Lipper (1967), 18.

[55] See generally McCaffrey (2001), 137-149; Berber (1959), 25ff.; and Lipper (1967), 23-38; Caflisch (1989), 55-59.

[56] Lipper (1967), 33.

This is based on the principle of equitable apportionment[57] and on the principle of reasonable use.[58] This theory has acquired the largest support in state practice,[59] multilateral conventions, bilateral treaties, and decisions of both domestic and international courts and tribunals.[60] This is evidence that States have been recognising that there are limits to their sovereignty stemming from the geographical characteristics of shared water resources. Furthermore, it shows that States are aware that some form of co-operation is required to determine what is equitable and reasonable in each case. The minimum level of co-operation implied in this theory may be considered embryonic, since in practice different forms of closer co-operation have been developing through time.

The precise rights to use the watercourses, and the correlative obligations of riparian States within this ambit, need further examination in order to assess their relation with the principle of co-operation. For this purpose the fundamental principles that characterise this theory will be analysed in s.2.3.4. and s.2.3.5. below.

2.2.4 The Theory of Common Management

The theory of common management,[61] sometimes called the theory of community of interest,[62] seems to be gaining support at the international level. This theory aims at obtaining an optimum utilisation of the waters by an

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[57] This principle was developed in the USA, where two different régimes govern the uses of water. The doctrine of prior appropriation prevails in the western states, while in the eastern states it is the law of riparian rights that applies. In settling inter-state disputes over water resources, the Federal Courts have determined that the governing rule is the rule of equitable apportionment. Wouters (1997a).

[58] This is well established in American common law. Under this principle 'the primary or fundamental right of each riparian proprietor on a watercourse . . . is to be free from unreasonable uses that cause harm to his own reasonable use. Emphasis is placed on a full and beneficial use of the advantages of the stream ..., and each riparian proprietor has a privilege to make a reasonable use of water for any purpose, provided that his use does not cause harm to the reasonable uses of others. Each riparian must make his use in a manner that will accommodate as many other uses as possible.' American Law Institute Restatement of the Law, Second, Torts (1977), Ch.41, § 849, 211-3.

[59] See the surveys of state practice carried out by the ILC Special Rapporteurs: 1982 Schwebel's Third Report, 75-82, and 1986 McCaffrey's Second Report, 103-5, 110ff.

[60] Such as the *River Oder* case, *Lake Lanoux* arbitration, and the *Gabčíkovo-Nagymaros Project* case, para.55. This is also the opinion of Lipper (1967), 62-3, Caflisch (1989), 55, and McCaffrey (2001), 137. See also *infra* s.2.3.4.

[61] See Birnie and Boyle (2002), 304-5.

[62] See also Berber (1959), 22-25; Caflisch (1989), 59-61; and McCaffrey (2001), 149-171.

integrated and joint management of the river basin in its entirety, with little regard to political frontier demarcations.[63] It thus facilitates the international regulation of the water environment.

As with the previous theory, the root of this theory is the concept of 'community of interest of riparian States', defined by the PCIJ in the *Territorial Jurisdiction of the International Commission of the River Oder*[64] in the context of navigation, and elaborated in other international decisions. This concept rests on 'the perfect equality of all riparian States in the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others'. In addition, the whole watercourse or the river basin are considered one unit for economic, legal and management purposes. This theory requires the establishment of a joint policy-making and management institution.

This is a very ambitious theory, given that it implies a high level of co-operation, mainly by requiring an institutional framework further to the procedural obligations indispensable for the implementation of the substantive principle of equitable and reasonable utilisation and the prohibition on causing significant transboundary harm. In fact, the common management approach diverges from the previous theory only in degree of its development,[65] since it is based on the same premises.[66]

But is the mere fact that States have a certain measure of community of interest, as with other natural resources, sufficient ipso facto to impose on them an obligation of common management? This obligation seems to arise from an inductive process, that is, from state practice. The theory has been progressively developing through bilateral and regional state practice, and the examples continue to increase.[67] The need for common management institutions have been advocated by learned societies, international organizations and conferences over the past decades. But '... it still cannot be

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[63] Lipper (1967), 38.

[64] For an analysis of this case, see *infra* s.3.2.6.2.

[65] Lipper (1967), 67, n.4.

[66] See Benvenisti (1996); and Brunée and Toope (1997).

[67] E.g. the 1978 Treaty for Amazonian Cooperation and the Amazonian Cooperation Council, or the more recent 1995 Mekong River Agreement and the Mekong River Commission.

asserted with confidence that the duty to cooperate through joint institutions is generally accepted as reflecting customary law'.[68]

This community of interest approach has been criticised for having disadvantages for States which are not at the same stage of economic development, since it requires investment,[69] as well as for presenting an 'absolute restriction' on the free use of fresh water, since it would prevent a State from using the waters 'without the positive co-operation of the others'.[70] The need for positive co-operation, however, may also be argued to be required in the theory of limited sovereignty, since the application of the principle of equitable and reasonable utilisation also needs some of the procedural obligations related to co-operation, such as the regular exchange of data and information.

We have seen that the legal theories on international watercourses have developed through time reflecting primarily the evolution of state practice. The sovereignty of States over rivers and their basins in their territory is undoubtedly restricted and subject to some form of co-operation. This general obligation to co-operate and its concrete applications arise in response to geographical characteristics and to human uses of the waters and suggest responsiveness by law to geography. But how does this obligation relate to other principles of international law?

2.3 The Relationship between the Principle of Co-Operation and Other General Principles of International Law

2.3.1 Introductory

In international law, co-operation intertwines with several other principles of international law, the content of which may contribute to determining its scope and content. The duty of States to co-operate with one another in accordance

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[68] Benvenisti (1996), 413. See also Perrez (2000), 317. For an examination of this issue, see *infra* s.5.2.

[69] But these may be overcome through long-term loans and grants provided by international financial institutions or lending States. Lipper (1967), 39-40.

[70] Chauhan (1981), 137.

with the UN Charter was incorporated and expanded in UNGA Resolution 2625 (XXV), adopted on 24 October 1970,[71] containing the 'Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations'.[72] This resolution, adopted by consensus, solemnly proclaims a number of principles identified as governing all States' relations, namely:

1. The duty of States to co-operate with one another in accordance with the Charter;
2. The principle of sovereign equality of States – one of the UN Charter's fundamental principles –;
3. The principle that States shall settle their international disputes by peaceful means;
4. The principle that States shall fulfil in good faith the obligations assumed by them in accordance with the Charter;
5. The principle that States shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the purposes of the UN;
6. The principle of non-intervention in the internal affairs of another State; and
7. The principle of equal rights and self-determination of peoples.

Although subject to criticisms both as to form and substance,[73] the Declaration has the merit of bringing different principles together under the same heading. The relationship of some of these principles with the principle of co-operation is clearly stated.

Some of these principles are particularly helpful in the determination of the content of co-operation, especially in the context of international watercourses. Thus, the relationship between the principle of co-operation and some of the other principles of the Declaration will now be examined.[74]

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[71] Also printed as Appendix in Lowe and Warbrick (eds.)(1994), 256-263.

[72] For an in-depth analysis of the Declaration and its elaboration process, see Sinclair (1994).

[73] See Salmon (1991), 419-420.

[74] This notwithstanding the fact that other general principles of law are relevant in the context of international water resources, such as the polluter-pays principle.

2.3.2 The Principle of Sovereignty and Equality of States

The concept of sovereignty may be considered in different senses, legal and non-legal. In the context of the debate over Europe, the Select Committee on the European Communities of the House of Lords referred to three distinct senses of sovereignty. First, sovereignty is used to describe 'the supreme authority in the internal order of a State', such as a King or Queen. Second, the concept is used in international law to describe the characteristics of a State. This includes a settled population, a defined territory, a government with power to maintain its internal order, and independence in the conduct of its international relations. Third, the term is also used in a political sense to describe 'the extent to which a State has a power of effective or unfettered action'.[75]

The general principle of the sovereignty and equality of States is one of the foundations of international law.[76] For this reason, this principle is interconnected with almost all other principles, including that of co-operation.[77]

The underlying concept of sovereignty does not imply unlimited power. Other States have equal standing under international law and are also sovereign. 'The state remains a sovereign state in international law and continues to be able to guide its future destiny within the limits that it has itself accepted'.[78] In other words, national sovereignty is limited in terms of power where international obligations begin,[79] for instance, the acceptance of any treaty obligation or the membership of an international organisation. The latter, for example, implies the acceptance of the organisation's rules and procedures. Hence, sovereignty is 'no longer absolute but shared'.[80]

In the field of international environmental law, comprising the law of water resources, Perrez developed a theory where co-operation is considered simply

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[75] House of Lords Select Committee on the European Communities, *Political Union: Law-Making Powers and Procedures*, 17th Report, Session 1990-91, at 8.

[76] Recognised in Article 2, paragraph 1 of the UN Charter.

[77] For the relationship between co-operation and sovereignty, see Warbrick (1994), in particular at 220.

[78] Lauterpacht (1997), 149.

[79] *Id.*

[80] Sir Eli Lauterpacht, in ILA, 5 *International Law Forum* (2003), No.3, 219.

an element of the concept of sovereignty.[81] The theory of co-operative sovereignty[82] holds that co-operation between States is not a principle independent from that of sovereignty, but rather an element of its notion. The principle of sovereignty is argued to include the elements of independence and freedom, but also the positive element of membership in the international community with its inherent authority, responsibility, and duty to participate actively in the community. This theory is put forward through a functional analysis of the concepts of sovereignty and permanent sovereignty, where these principles are said to inherently include a duty to co-operate.[83]

Perrez argues that the evolution of the concept of sovereignty results from existing problems of environmental, economic and social nature, which hardly ever conform to state boundaries but are rather of regional or global scope, and consequently cannot be solved by States acting independently.[84] Sovereignty as responsibility to co-operate, however, is argued not to eliminate the element of independence. States' different goals and priorities are considered of equal value, but in case of conflicting or overlapping interests, such as those related to development and environment, co-operation is necessary to reach equitable and balanced solutions.[85]

The reasoning behind this theory agrees with the theory of limited territorial sovereignty. But how much does this theory really contribute in the field of international water resources? In its essence, and since its ambit is wider than international watercourses, this theory offers little more than a theoretical approach to corroborate the well-established doctrine of equitable and reasonable utilisation. In fact, the concept of co-operative sovereignty applies to both the theory of equitable and reasonable utilisation and that of common management. The difference lies in the required level of co-operation. For example, joint institutions may exist in both, although they are compulsory in

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[81] In the debate in the ILC concerning the legal principle of international co-operation, some of the members expressed the view that this was a necessary element of the principle of sovereign equality of States. See *Yrbk ILC* [1987], Vol. II, Pt. 2, 21.

[82] See Perrez (2000), especially 255-317.

[83] Within the meaning of the phrase 'obligation to co-operate', the author distinguishes a 'general duty to co-operate', which refers to an 'indefinite obligation to co-operate', and 'concrete obligations to co-operate', which consist of obligations 'to act in a specific way'. Perrez (2000), 261. See also *infra* s.3.2.7.

[84] Perrez (2000), 86. See also Hohmann (1994), 185.

[85] Perrez (2000), 340.

the latter. None of the existing concrete obligations to co-operate 'require States to give up all their autonomy and freedom'.[86]

But the underlying issue remains almost untouched. That is, what exactly does co-operation entail? This is not analysed, just referred to. Nevertheless, this theory is innovative in its perspective, in approaching the question of sovereignty from a procedural point of view rather than from the traditional substantive one. And as we have seen, procedural rules, as forms of co-operation, are implied and are required for the implementation of the substantive principles of equitable and reasonable utilisation and the prohibition of causing significant harm.

2.3.3 The Principle of Permanent Sovereignty over Natural Resources

The principle of permanent sovereignty over natural resources is well-established. The evolution and development of the concept has gone through different stages.[87] The right of States to permanent sovereignty over all their natural resources has been declared and reaffirmed several times at the international level. Since the early 1950s with the process of decolonisation in newly independent States, the problem of ownership of natural resources, such as oil, by foreign entities led to the discussion of the subject in the UNGA and to the assertion of the principle in several resolutions.[88]

In Resolution 626 (VII) of 21 December 1952, one of its earliest resolutions on the subject, the UNGA recognised that 'the right of peoples to use and exploit their natural wealth and resources is inherent in their sovereignty'. But it was Resolution 1803 (XVII) adopted in 1962 that, although non-binding, has been viewed as declaratory of existing law.[89] This resolution recognised the

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[86] *Ibid.*, 317.

[87] For a detailed account of the evolution of this principle, see Chowdhury (1984), or Schrijver (1997), Ch.2.

[88] And later on to the right to nationalize or to control foreign-owned resources and industries, in order not to be bound by foreign investment protection legislation. See the 'Declaration on the Establishment of a New International Economic Order' (NIEO), UNGA Resolution 3201 (S-VI), adopted in 1974; and Article 2 of the 1974 Charter of Economic Rights and Duties of States, which specified that the right included 'possession, use, and disposal, over all its natural resources'. Several developed States voted against this resolution.

[89] Birnie and Boyle (2002), 138. See generally Brownlie (1979), and Schrijver (1997).

advantages of international co-operation for the economic development of developing countries, notably through the exchange of technical and scientific information in the development and use of the resources.

There is universal recognition that States are fully entitled to exploit the natural resources in their own territories. But this does not in any way imply that States in exploiting their resources may cause significant harm to other States. In fact, although the principle of permanent sovereignty over natural resources has been reiterated as such, it is in practice qualified by treaty and customary rules concerning the conservation of natural resources and environmental protection.[90] This supports the proposition that sovereignty is in effect limited in matters that concern the international community as a whole.

This point may be exemplified by Principle 21 of the 1972 Stockholm Declaration on the Human Environment which affirms that 'States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.' This principle was reiterated in Principle 2 of the 1992 Rio Declaration on Environment and Development, which also referred to 'developmental policies', and recognised by the ICJ as a rule of general customary international law.[91]

2.3.4 The Principle of Equitable and Reasonable Utilisation

On the basis of state practice, the principle of equitable and reasonable utilisation, 'the key principle of international law in this area',[92] was laid down

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[90] *Id.* See, e.g. the 1968 African Convention, and the 1992 CBD.

[91] In its advisory opinion on *The Legality of the Threat or Use of Nuclear Weapons*, ICJ Reports (1996), 241-2, para.29, the Court affirmed that 'The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment'. This was recalled by the ICJ on the *Gabčíkovo-Nagymaros Project* case, ICJ Reports (1997), 41, para.53.

[92] Commentary to Article IV of the 1966 ILA Helsinki Rules.

initially in the 1966 ILA Helsinki Rules (Articles IV and V).[93] It soon found support from several bodies, such as the Brundtland Group of Legal Experts, who included 'equitable utilisation' in their Draft Convention on Environmental Protection and Sustainable Development.[94] Later it was included in the 1997 UN Watercourses Convention (Articles 5 and 6), and in a number of regional[95] and bilateral international agreements.

Equitable and reasonable utilisation consists of the right of the riparian State to use the waters of the watercourse to the same degree as the other riparian States. This right is based on the theory of the sovereign equality of States. The right to use the water by the watercourses States are 'qualitatively equal to, and correlative with, those of other watercourse States'.[96] However, this does not mean that each State concerned is entitled to an equal share of the uses and benefits of the watercourse; nor that the waters are divided into equal portions.[97] Rather it means that each State is entitled to use the water 'in such a manner as to achieve the maximum benefit for all with a minimum of detriment to each'.[98] But how does this principle of equitable and reasonable use assume legal expression, and how is it applied in practice?

Even within a framework of legal principles and concepts accepted by the parties in the negotiation of a treaty regarding the use of the waters of an international watercourse, the problem of concretisation of such principles into rules defining the legal régime remains to be solved. Applying the principle of equitable and reasonable utilisation requires a complex determination. As, for instance, with the delimitation of continental shelves in accordance with equitable principles, the scope of the right of equitable utilisation depends on the facts and circumstances of each individual case, and specifically on a weighing of all relevant factors. For this purpose, Article V of the 1966 ILA

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[93] Although Article 3 of the 1961 IDI Salzburg Resolution had already referred to it.

[94] See Munro and Lammers (1987), 72-5.

[95] Such as the 1992 Helsinki Watercourses Convention, Article 2(2), and the 2000 SADC Revised Water Protocol, Article 3(7) and (8).

[96] 1994 ILC's Draft Articles, 88-135, 98. See also comment (a) to Article IV of the 1966 ILA Helsinki Rules.

[97] *Id.*

[98] Lipper adds that equitable utilisation requires 'beneficial use', i.e., that an use should only be protected in so far as it reaches 'sufficient economic or social benefits to its user so that it is reasonable, under all circumstances, that its continuation should be considered'. Lipper (1967), 63.

Helsinki Rules and Article 6 of the 1997 UN Watercourses Convention provide a useful guide for the manner in which States are to implement this principle, by setting forth assessment criteria[99] to be followed by each State to ensure compliance.[100] According to Article 6 of the 1997 UN Watercourses Convention, these include:

(a) Geographic, hydrographic, hydrological, climatic, ecological, and other factors of a natural character;
(b) The social and economic needs of each State concerned;
(c) The population dependent on the watercourse;
(d) The effects of the use or uses on the other co-riparian States;
(e) The existing and potential uses of the watercourse;
(f) Conservation, protection, development and economy of use of the water resources and the costs of measures taken to that effect;
(g) The availability of alternatives, of corresponding value, to a particular planned or existing use.

This list of criteria, which is not exhaustive,[101] clearly indicates the need for collaborative work between geographers, engineers, economists and lawyers in the application of international law. The priority and weight given by each State to each factor has 'to be determined by its importance' in a comparative judgment of all factors (Article 6(3)). Approaches adopted by States have been diverse, with the major problem in applying this principle being quantifying the weight of the different uses, and assessing the benefits derived therefrom, as well as their costs.[102] One method suggested to measure these benefits takes into account 'all costs likely to be caused by the alteration of the water flow and of the usages'.[103] In order to apply the principle of equitable utilisation, it seems clear that the natural characteristics of the flow should constitute the basis for the sharing of the water volume, and for this purpose the collection and exchange of data and information on the watercourse is essential.[104]

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[99] For a comprehensive study of these criteria, see Fuentes (1996).

[100] Commentary to Article 6, 1994 ILC's Draft Articles, 101.

[101] Article 13 of the 2004 ILA Berlin Rules adds the term 'hydrogeographic' to paragraph (a), as the Rules also consider groundwater, and two other factors, namely, 'the sustainability of proposed or existing uses', and 'the minimization of environmental harm'.

[102] Although 'in the light of jurisprudence...the most relevant factors to be taken into account are those related to the water requirements of the states concerned.' See Fuentes (1996), 412.

[103] See for the problems of quantification, Hafner (1993), 140.

[104] See *infra* s.4.2.

The central problem of this principle is, in fact, its application in practice, since it does not in itself provide legal certainty and it frequently requires a complex balancing process. Article 6(2) of the 1997 UN Watercourses Convention attempts to answer this question by suggesting the entry into consultations between watercourse States 'when the need arises'. This means that this form of co-operation is dependent upon the request of one watercourse State. This falls short of requiring what we consider essential for an efficient process that aims at 'attaining optimal and sustainable utilization' of the watercourse (Article 5(1)).

For this reason, the establishment of institutional mechanisms or the creation of a joint commission would undoubtedly be useful, not only at the ministerial level for the determination of policies, but, most importantly, at the technical level for the analysis and exchange of data and information and for the implementation of the policies.[105] This has been recognised over time in different regions.[106] Nevertheless, there is as yet no obligation requiring the establishment of joint mechanisms or commissions to facilitate co-operation through positive joint management.[107]

It has been argued by Fuentes that the principle of equitable and reasonable utilisation does not depend on the principle of co-operation for its operation, since the former is a principle of general international law and may be applied by a third party arbitrator in the context of the judicial settlement of disputes.[108] It is submitted that an examination of the relevant international judicial decisions points to a different conclusion.[109]

At this stage a distinction must be drawn between the implementation of the principle of equitable and reasonable utilisation in the context of diplomatic relations between the States interested, and in the context of a dispute already brought before an international court or tribunal. In the first case, States face the difficult task of determining what is equitable and reasonable. If the

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[105] See also 1986 McCaffrey's Second Report, 132, para.177.

[106] See, e.g. Article V of the 1968 African Convention, and, more recently, Article 5 of the 2000 SADC Revised Water Protocol, and Article 9 of the 1992 Helsinki Watercourses Convention.

[107] See *infra* s.5.2.

[108] Fuentes (1998), 128-9.

[109] In particular, the *Lake Lanoux* arbitration, and the *Gabcíkovo-Nagymaros Project case.*

riparian States have already concluded an agreement regarding the watercourse concerned, it is likely that they have already agreed on some form of apportionment of the water or institutionalised some form of co-operation – most obviously the exchange of some relevant information. If States have not yet entered into any sort of agreement, it is clear that some form of co-operation is required in order to apply the substantive principle. How would it be possible to determine what is equitable and reasonable without the necessary data and information on the different parts of the river basin or the planned uses of other riparian States? A State could unintentionally 'discover the limits of its rights only by depriving another State of its equitable share'.[110] It may be logically deduced, as a matter of common sense, that as a minimum an obligation to exchange information exists.[111]

In the second case, in the few instances concerning international watercourses brought before international courts and tribunals, the legal question was one of interpretation and application of treaty rules – an application of the principle of co-operation –, and the rôle of the court or tribunal has been limited to assessing whether a particular State's conduct had been equitable and reasonable, or to pointing out what was *not* considered equitable and reasonable, rather than determining *how* this should be attained in the particular case. The following case illustrates this.

In the *Gabcíkovo-Nagymaros Project* case,[112] after citing the judgement of the PCIJ in the *River Oder* case regarding the community of interest of riparian States,[113] the ICJ held that Slovakia, by its unilateral diversion of the Danube and by unilaterally assuming control of a shared resource, had deprived Hungary of 'its right to an equitable and reasonable share of the natural resources of the Danube'.[114] The Court pointed out that the Danube is not only a shared international watercourse, but also an international boundary river to

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[110] 1987 McCaffrey's Third Report, 23, para.32.

[111] It may also be argued that other procedural obligations are required. See *infra* Ch.4. In fact, for riparian States, the exchange of data and information 'serves to foster the minimal co-operation essential to their beneficial use of their shared water resources. The objective here is to avoid costly and unnecessary disputes by promoting, through minimal duties, essential co-operation between the States concerned.' 1982 Schwebel's Third Report, 103-4, para.158.

[112] (Hungary/Slovakia), Judgment of 25 September 1997. For an analysis of the case, see *infra* s.3.2.6.5.

[113] See *infra* s.3.2.6.2.

[114] Paras.85 and 152.

which the principle of the perfect equality of all riparian States applies. However, the Court did not specify what the equitable and reasonable solution would be. Instead, the Court required the parties to resume co-operation without prescribing the results to be reached by further actions. The Court explained its position as follows:

> In this case, the consequences of the wrongful acts of both Parties will be wiped out 'as far as possible' if they resume their co-operation in the utilisation of the shared water resources of the Danube, and if the multi-purpose programme, in the form of a co-ordinated single unit, for the use, development and protection of the watercourse is implemented in an equitable and reasonable manner. What it is possible for the Parties to do is to re-establish co-operative administration of what remains of the Project.[115]

As mentioned before, the major problem in applying the principle under review is the weighting of the different uses and assessing and balancing the benefits derived therefrom, and this requires policy decisions that go beyond the legal field. Thus, it is argued that although theoretically speaking international courts and tribunals may apply the substantive principle to the particular case, this is not realistic in practice without some form of co-operation *ex ante* or *ex post* between the riparian States.

It also confirms that the ICJ, like other courts or tribunals, limited itself to saying whether a particular conduct had been equitable or reasonable – which indeed was usually the question brought before the Court – but did not and could not say what exactly an equitable and reasonable use is, since this depends on a number of different factors which vary with the situation and context.

2.3.5 The Principle of Prevention of Significant Transboundary Harm

The principle of the 'harmless use of territory', or *sic utere tuo ut alienum non laedas*, 'is a reflection of the sovereign equality of States.'[116] In the 1955 8th edition of Oppenheim, edited by Sir Hersch Lauterpacht, the principle was explained as follows:

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[115] Para.150.

[116] McCaffrey (1993), 107.

The responsibility of a State may become involved as the result of an abuse of a right enjoyed by virtue of International Law. This occurs when a State avails itself of its right in an arbitrary manner in such a way as to inflict upon another State an injury which cannot be justified by a legitimate consideration of its own advantage . . . The duty of the State not to interfere with the flow of a river to the detriment of other riparian States has its source in the same principle. The maxim, *sic utere tuo ut alienum non laedas* [so use your property as not to harm that of another], is applicable to relations of States no less than to those of individuals; it underlies a substantial part of the law of torts in English law and the corresponding branches of other systems of law; it is one of those general principles of law recognised by civilised States which the Permanent Court is bound to apply by virtue of Article 38 of its Statute.[117]

It is supported by international courts and tribunals,[118] in bilateral[119] and multilateral treaties,[120] and it is expressly provided for in Article 7 of the 1997 UN Watercourses Convention.[121] Most doctrine recognises that this principle is already part of the *corpus* of customary international law.[122]

The obligation not to cause significant transboundary harm to the environment of another State has two corollaries. On the one hand, it implies an obligation of prevention, of due diligence, a negative obligation. On the other hand, an obligation requiring positive action, which consists of eliminating or mitigating the harm already caused. The causing of harm generates state responsibility *ex post facto*.[123]

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[117] Oppenheim (1948), 313-4; (1955), 345-7.

[118] See e.g. *Trail Smelter* Arbitration (1938, 1941), and *Corfu Channel* Case (1949). In relation to the environment, see the *Legality of the Threat or Use of Nuclear Weapons* Case (1996). In the context of international watercourses, see *Lake Lanoux* Arbitration (1957) and the *Gabčíkovo-Nagymaros Project* Case (1997). On state responsibility, see generally *infra* Ch.6.

[119] See, e.g. Art. IV of the 1909 Boundary Waters Treaty between Canada and the United States.

[120] See, e.g. Article 2 of the 1992 Helsinki Watercourses Convention. This regional convention has as main purpose the prevention, control and reduction of transboundary impact. See also Article 16 of the 1968 African Convention.

[121] See commentary to Article 7 of the 1994 ILC's Draft Articles, 102.

[122] See, e.g. Caflisch (1989), 139; McCaffrey (2001), 380; Tanzi and Arcari (2001), 160; Birnie and Boyle (2002), 310-1; Dellapenna (2003); and the commentary to Article 16 of the 2004 ILA Berlin Rules. See also Brunnée (1989), 806, and Hohmann (1994), 197, who argue that the prohibition to cause significant pollution is a norm of *jus cogens*.

[123] See *infra* Ch.6.

In the context of international watercourses, this duty relates most obviously to pollution; this may have different sources, such as agricultural run-off, industrial effluents, or domestic sewage. Issues of water quantity, however, may be involved as well.[124] This may be the case where the upstream State transfers water from one river system to another within its territory, or where there is a release of a high quantity of water from a dam upstream, or where consumption is so high that the volume of water flowing downstream is reduced to the extent that it causes significant harm, such as drying out the river bed and consequently damaging the aquatic ecosystem, or not leaving a sufficient volume of water for household water supply.

In the *Lake Lanoux* Arbitration,[125] it may be inferred from the Court's explanation concerning the diversion of 25 per cent of the flow of the Carol River, that it accepted the principle that an upper riparian State acts unlawfully if it modifies the waters of a river in their natural condition causing serious injury therefrom to a lower riparian State. The Court noted that Spain could have argued that due to the complexity of the proposed works there could be no assurance of restitution of water in quality or quantity to the natural contribution of Lake Lanoux to the Carol River. Since Spain did not argue this, the Tribunal felt it could not consider it. From another point of view, the neighbouring State cannot object to the works carried out by another riparian State, unless its own interests in the fresh waters are affected substantially.[126]

As with the principle of equitable utilisation, problems exist with the practical application of this principle, notably with the determination of the threshold. The standard of due diligence, or the taking of 'all appropriate measures', is also considered in order to determine 'significant' harm;[127] and also to verify if the harm results from inequitable or unreasonable use.[128]

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[124] This is the reason why is the ILC did not confine the scope of Article 7 of the 1997 UN Watercourses Convention to matters of water quality.

[125] For an analysis of this case, see *infra* s.4.3.1.3.

[126] Other cases referring to this principle include, e.g. *Connecticut* v. *Massachusetts* 282 US 660 (1931).

[127] The ILC used on its earlier drafts other terms such as 'serious' and 'appreciable' harm.

[128] The criteria to which the degree of diligence is required may vary. For this criteria, see Nollkaemper (1993), 40.

There is continuing debate as to the balance to be struck between the two substantive principles. If an upstream State decides to build a dam and a hydro-electric power plant on an transboundary river as a measure to help develop the region, but this use would interfere with the amount of water available downstream for irrigation on a land, the population of which largely depends on agriculture for its subsistence, is the planned use equitable and reasonable even though it produces significant harm?

A method of balancing the two substantive principles considered by the ILC gives priority to the obligation not to cause significant harm by labelling this use inequitable.[129] However, Article 7 of the 1997 UN Watercourses Convention, which reflects the compromise achieved in the matter, favours the principle of equitable utilisation:[130] a State should take 'all appropriate measures to prevent the causing of significant harm'; but if this nevertheless occurs the harming State has first the obligation to enter into consultations with the affected State in order to determine the extent to which the harmful use is equitable and reasonable, and secondly whether the harming State should adjust its use and take appropriate measures to eliminate or mitigate such harm. In other words, the causing of significant harm does not necessarily engage the responsibility of the harming State.[131]

Another related problem is that of the content of the human right to water.[132] This right, which 'entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses',[133] has obviously implications at the international level. For instance, in negotiations, if a riparian State argues that the quantity of water it needs is for the survival of both human beings and other living beings, and other co-riparian argues that it requires a certain amount of water for the production of hydro-electricity or

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[129] This primacy was defended earlier by McCaffrey, who argued that it is easier to determine that this obligation has been breached than to determine the limit of a use as equitable and reasonable, and that this primacy would be in a form to protect weaker States that have suffered the harm, for 'it is not open to the stronger state to justify a use giving rise to the harm on the ground that it is equitable'. See McCaffrey (1989), 510.

[130] See McCaffrey (1998), 21-22.

[131] See *infra* Ch.6.

[132] On the human right to water, see generally, e.g. Salman and McInerney-Lankford (2004) or Dubreuil (2006).

[133] UN Committee on Economic, Social and Cultural Rights, General Comment No.15, adopted on 26 November 2002. This interprets Articles 11 and 12 of the 1966 International Covenant on Economic, Social and Cultural Rights, which refer to the right to an adequate standard of living and the right to the highest attainable standards of health.

irrigation, the former has priority in the use of the water. This is because 'priority in the allocation of water must be given to the right to water for personal and domestic uses',[134] that is, human life and health always takes precedence over economic development.[135] But in fact, in the majority of cases, this should not affect the other water uses, as the amount of water necessary for the basic human needs of the population is very small in comparison to the large quantities used for economic development.[136]

Since the facts and circumstances of the cases vary enormously, disputes may be avoided by implementing these 'flexible' principles[137] through the application of several procedural rules derived from the general obligation to co-operate, such as the obligation to provide information on planned measures, which may be common to all cases and more precise in content.[138] Indeed, it has been argued – through a rather overstretched deduction – that these procedural obligations, and *a fortiori* the general obligation to co-operate, are norms of *jus cogens* due to their 'indirect linkage to the occurrence of significant pollution and its indispensability for the co-existence of the community of States'. This argument of *juristic inevitability*[139] is based on the premise that the obligation not to cause significant harm to the environment of other States is itself a norm of *jus cogens*.[140] However, there is no convincing evidence to support such a premise.

2.3.6 The Principle of Good Neighbourliness

As with the no significant harm principle, the principle of good neighbourliness derives from the Roman law maxim,[141] followed by the common law doctrine, of *sic utere tuo ut alienum non laedas* (so use your own property as not to injure your neighbour). This principle was then developed by using a comparative law

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[134] *Id.*

[135] Fitzmaurice (2001), 462.

[136] Dubreuil (2006), 5.

[137] See McCaffrey (1998), 23, para.32.

[138] See *infra* Ch.4.

[139] Presented by Denmark and The Netherlands in the *North Sea Continental Shelf* Cases; ICJ Reports (1969), 29, para.37.

[140] Brunnée (1989), 806, and Hohmann (1994), 197.

[141] E.g. Berber (1959), 196. This is, however, considered uncertain by some writers, such as Lammers (1984), 570.

approach from the abuse of rights doctrine[142] and asserted by Andrassy[143] as part of international law.[144] It is recognised in several international instruments.[145]

This principle is interconnected with the obligation of States not to cause significant harm. Good neighbourliness means that States allow some form of minimal damage.[146] It derives from the physical interdependence of co-basin States and implies reciprocity.[147] In the relations between riparians this may be illustrated by the fact that the water received by the lower riparians will not have the same quality as that originally coming from the spring.

Although the explicit reference to the principle was not introduced in the wording of Article 8 on the Principle of Co-operation in the 1997 UN Watercourses Convention,[148] there is a reference to it in Paragraph 6 of the Preamble to the Convention.

Some authors argue that the principle of good neighbourliness provides the limit to the duty not to cause significant harm in so far as it involves 'a duty to tolerate to a certain extent harmful effects caused by activities not in themselves unlawful, undertaken in neighbouring States'.[149] In fact, it is widely accepted that in a watercourse some degree of harmful effect will necessarily be caused, which illustrates the importance of the determination of a threshold at which damage may entail liability. The importance of this threshold is evident in the discussion of the terminology used in Article 7 during the ILC's different

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[142] See Politis (1925). For example, the harmful diversion of waters by the upstream States may not be the exercise of a legal right, but an abuse of that right due to the negative consequences that may produce on the other State. On the theory of abuse of rights, see e.g. Berber (1959), 195-210, Lammers (1984), 572-7, and Jennings and Watts (1992), 407-10.

[143] See Andrassy (1951).

[144] For the doctrinal evolution of the principle, see McWhinney (1991), 428-431, and Lammers (1984), 563-569.

[145] Such as Article 74 of the UN Charter, and Article 10 of the 1992 Helsinki Watercourses Convention, which mentions good neighbourliness as one of the basis for consultations. See also the *Lake Lanoux* arbitration, 24 *ILR* (1957), at 197. While arguing that France needed Spain's consent to proceed with works in its territory, Spain recognised that 'A State has the right to use unilaterally the part of a river which traverses it to the extent that its use is likely to cause on the territory of another State a limited harm only, a minimal inconvenience, which comes within the bounds of those that derive from good neighbourliness'.

[146] See Lammers (1984), 568.

[147] Lester (1963), 833.

[148] Proposed by Portugal, and supported by Argentina, Iraq and Germany, all downstream States.

[149] Hafner (1993), n.57.

drafts and the final text of the 1997 UN Watercourses Convention. The terms under discussion were those of 'significant', 'serious', and 'appreciable' harm. In addition, in the 1994 Draft Articles, the ILC proposed the standard of 'due diligence', which was later on altered in the Sixth Committee to 'all appropriate measures', thus using the same terminology as the 1992 Helsinki Watercourses Convention and the 1982 UNCLOS.

The concept provides guidelines, but it lacks 'precise rules for determining rights and duties flowing from neighborship in concrete situations.'[150] These lacunae have been filled by procedural obligations, such as consultations, which require an assessment of the potential impact of planned activities and works on other States.

2.3.7 The Precautionary Principle

Originating in national law, the precautionary principle or approach has gone a long way to become one of the most significant principles of modern international environmental law.[151]

Though not consistently defined,[152] the precautionary principle is expressed in Principle 15 of the 1992 Rio Declaration on Environment and Development in the following terms:

> In order to protect the environment, the precautionary approach shall be widely applied by states according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost effective measures to prevent environmental degradation.

This principle calls for environmental decision-making at an early stage. Accordingly, protective measures must be adopted even in the absence of a scientifically proven risk, provided that the risk is plausible. This approach

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[150] Lester (1963), 833.

[151] For an examination of the precautionary principle, see e.g. Hohmann (1994), Freestone and Hey (1996), and Fitzmaurice (2001), 259-279. In the latest edition of *Principles of Public International Law*, Brownlie finally recognises the precautionary principle as an emergent, but still evolving, legal principle. Brownlie (2003), 275-6.

[152] E.g. Freestone (1994), 23, and Sands (2003), 267 and 272. See also Hohmann (1994), 334, for a summary of the differentiation between the precautionary principle and the principle of preventive action.

changes the rôle of scientific data and may shift the burden of proof,[153] since '[i]t requires that once environmental damage is threatened action should be taken to control or abate possible environmental interference even though there may still be scientific uncertainty as to the effects of the activities.'[154]

In reality, this principle or approach 'helps determine whether a risk is sufficiently foreseeable and serious to require a response, but it cannot determine what that response should be'.[155] In other words, the method of how to control the risk or the judgment of what level of risk is acceptable is left for policy makers and politicians, rather than scientists or courts.[156]

While the principle is adopted by a growing number of States and international organisations both in treaties[157] and as a matter of policy,[158] its meaning, precise content and implications are still rather vague.[159] The practice of international courts and tribunals and of the States appearing before them have contributed to its clarification.[160]

In the Nuclear Tests II case, New Zealand relied on the precautionary principle, arguing that France should provide evidence that the introduction of radioactive material by the nuclear test would not cause damage to the marine environment, and contended that the precautionary principle was very widely accepted in contemporary international law.[161] Similarly, in the

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[153] Contrary to the traditional approach, the shift here means that it is the potential actor who wishes to carry out the activity that has to prove that it will not cause harm to the environment. See Sands (2003), 273.

[154] Freestone (1994), 211.

[155] Birnie and Boyle (2002), 120.

[156] *Ibid.*, 119.

[157] E.g. the 1992 Helsinki Watercourses Convention, Article 2(5).

[158] See Article 23 of the 2004 ILA Berlin Rules.

[159] This includes issues as to selective application, different thresholds of harm, burden of proof, and consequences of application. See Birnie and Boyle (2002), 119-120. Trouwborst identified three core elements of the principle amidst the definitions used by States in different contexts. They are: (1) a threat of harm, (2) uncertainty, and (3) action. Trouwborst (2006), 286. McIntyre and Mosedale contend that effective and satisfactory implementation of the principle can be achieved, *inter alia*, by means of precautionary assessment, the setting of precautionary standards and the discharge of ancillary informational obligations. McIntyre and Mosedale (1997), 241.

[160] The ECJ has applied the principle and referred to it as a 'general principle of Community law'. Case C-132/03 Codacons [2005] ECR p.I-4167, para.35. See also, e.g. Case T-13/99 Pfizer Animal Health v Council [2002] ECR p.II-03305, para.114.

[161] New Zealand Request, para.105. See also the dissent opinion of Judge Weeramantry, ICJ Reports (1995), 342.

Gabčíkovo-Nagymaros Project case, both Hungary and Slovakia invoked the precautionary principle. Again, the ICJ did not expressly refer to the principle, but it made references in passing to Hungary's claim that the principle justified the termination of the 1977 Treaty and the need of the parties to take precautionary measures.[162]

In the *Southern Bluefin Tuna Cases*,[163] both New Zealand and Australia invoked the precautionary principle. In its order of 27 August 1999, the International Tribunal for the Law of the Sea (ITLOS) did not express its opinion on the approach, but considered that there was scientific uncertainty regarding measures to be taken to conserve the stock (para. 79) and that the parties should 'act with prudence and caution to ensure that effective conservation measures are taken to prevent serious harm to the stock (para. 77). In his separate opinion, however, Judge Treves mentioned that the precautionary principle is inherent in the very notion of provisional measures, and that the requirement of urgency is satisfied only in the light of the precautionary approach.[164]

In the *MOX Plant* Case, Ireland claimed that the United Kingdom had not applied the principle and that it had the burden of demonstrating that no harm would arise from the operation of the plant.[165] In its order of 3 December 2001, ITLOS stated that 'prudence and caution require that Ireland and the United Kingdom co-operate in exchanging information concerning risks or effects of the operation of the MOX plant and in devising ways to deal with them, as appropriate' (para. 84)

A much-debated issue concerns the legal status of this principle.[166] International courts and tribunals have been reluctant to recognise explicitly the customary international law character of the principle. Although some

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[162] ICJ Reports (1997), 62, para.97 and 68, para.113.

[163] (New Zealand *v.* Japan; Australia *v.* Japan) Provisional Measures, paras.77-9.

[164] Separate opinion, para.8. See also separate opinions of Judge Lang and *Ad Hoc* Judge Shearer.

[165] Statement of Claim of 25 October 2001 (para.34), before ITLOS. Ireland also claimed it in its Memorial of 26 July 2002 (para.6.21), before the Annex VII Arbitral Tribunal.

[166] See Birnie and Boyle (2002), 118. For an analysis into the status of the precautionary principle in international law, see e.g. McIntyre and Mosedale (1997) and Trouwborst (2002).

writers defend that it is still evolving,[167] recently more writers contend that it has already developed into a binding rule of customary international law.[168] Trouwborst summarises the evolution of the principle as follows:

> In an attempt to reconstruct the principle's legal development, it can be held that a period of ambiguity, similar to the one described by the ICJ in the 1974 *Fisheries Jurisdiction* case existed during the roughly five years preceding the 1992 UNCED. Nevertheless, although in hindsight many writers – rightly, it is submitted here – propose the Rio Conference as a major landmark in the legal evolution of the principle, on the basis of currently available information it is difficult and perhaps impossible to pinpoint with certainty the exact moment at which the metamorphosis of the precautionary principle from a non-binding principle into a mandatory one occurred. . . This does not detract from the fact, however, that at some point within a period of roughly one and a half decades, starting with its explicit emergence in international discourse in the mid-eighties, the precautionary principle has developed into a binding norm of customary international law.[169]

The relation of this principle of environmental law with the principle of co-operation in the context of water resources may be felt in different ways,[170] the most apparent of which relates to the obligation to provide data and information on a river basin or planned works, including environmental impact assessments. A pertinent question is, for example, whether in the context of international watercourses the planning State should be prevented from proceeding with its project on the basis of the precautionary principle if it does not have sufficient data. Application of a precautionary approach may be justified in this case by several reasons. These may include the lack of or level of uncertainty concerning data available, the lack of environmental impact assessment procedures concerning the planned measures, the political mishandling of the scientific information, or a history of weak compliance with the existing legal régime. Particular treaties seek to remedy these problems, for

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[167] E.g. Sands (2003), 279, although he asserts that the principle is already a customary rule in the context of the European Union, and that there is already enough broad support to argue that the principle reflects customary law.

[168] E.g. McIntyre and Mosedale (1997), 241, and Trouwborst (2002), 286.

[169] Trouwborst (2002), 276.

[170] See Article 2(4) of the 1994 Danube Convention, which establishes a direct link between the precautionary principle and the principle of co-operation.

instance, by specifying data collection methods and techniques. Nevertheless, the application of the principle requires a case-by-case analysis.[171]

2.3.8 The Principle of Sustainable Development

Sustainable development, defined as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs',[172] is a concept that expresses a goal to be achieved both at the national and international level.[173] As a legal term, its emergence comprises two main dimensions: environment and development. But in international law the normative content of this concept is rather vague and still evolving.[174] While incorporated in numerous international and national legal instruments,[175] and referred to in different international decisions, the legal status of the concept is still unclear.[176] Nonetheless, it has been argued that 'the very idea of sustainable development is enough to point [a court or] tribunal towards a coherent approach to a decision in cases where development and environment conflict'.[177]

In the context of international watercourses the concept of sustainable development was referred to for the first time by the ICJ in the *Gabcíkovo-Nagymaros Project* case,[178] where the Court recognised that the 'need to reconcile economic development with protection of the environment is aptly expressed in the concept of sustainable development'.[179] Judge Weeramantry, in his separate opinion, distinguishes his view from that of the Court. He considers sustainable development to be 'more than a mere concept, but as a

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[171] Sands (2003), 279.

[172] The concept was put forward by the World Commission on Environment and Development (WCED), also known as the Brundtland Commission. WCED (1987), 43.

[173] See generally, e.g. Fuentes (1998); Sands (1999), and (2003), 252-66; Fitzmaurice (2001), 47-64; Hafner (2003).

[174] For an account of its evolution, see the 2002 ILA Report on the Legal Aspects of Sustainable Development, 4-6.

[175] Such as the 1992 Convention on Biological Diversity (Article 8), or the 1999 Convention on the Protection of the Rhine (Article 3). The 1997 UN Watercourses Convention speaks only of the principle of 'sustainable utilization' (Article 5(1)).

[176] See, e.g. Boyle and Freestone (eds.)(1999), 16; and Lowe (1999), 20.

[177] Lowe (2000), 217.

[178] For an analysis of the case, see *infra* s.3.2.6.5.

[179] ICJ Reports (1997), 67, para.140.

principle with normative value'.[180] Further, he explains that '... the principle of sustainable development is thus a part of modern international law by reason not only of its inescapable logical necessity, but also by reason of its wide and general acceptance by the global community'.[181]

In an attempt at defining the legal contours of the concept, the ILA adopted the 2002 ILA New Delhi Declaration of Principles of International Law Relating to Sustainable Development, which reflect some of the principles of the 1992 Rio Declaration. They are the duty of States to ensure sustainable use of natural resources; the principle of equity, both inter-generational and intra-generational,[182] and the eradication of poverty; the principle of common but differentiated responsibilities;[183] the principle of the precautionary approach to human health, natural resources and ecosystems;[184] the principle of public participation and access to information and justice; the principle of good governance; and the principle of integration and interrelationship, in particular in relation to human rights and social, economic and environmental objectives.[185] These principles reveal the very wide scope of the concept.

The principle of sustainable development implies co-operation. The ILA recognises that the duty of co-operation is an essential duty in the achievement of global sustainable development and the protection of the environment, as well as in the attainment of equity in the development opportunities of developed and developing countries, and for the eradication of poverty (para. 2.3).[186] States are under this duty to co-operate, but other relevant actors, such as international organizations, corporations, non-governmental organizations and civil society, 'should' also co-operate (para. 3.1).[187]

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[180] *Ibid.*, 88.

[181] *Ibid.*, 95.

[182] That is, the need to preserve the natural resources for the benefit of present and future generations.

[183] This important principle includes two elements. First, the common responsibilities of States for the protection of the environment at national, regional and global levels; and second, the need to take into account the economic and developmental situation of the State and its contribution to the emergence of environmental problems. Fitzmaurice (2001), 65.

[184] See *supra* s.2.3.7.

[185] That is, sustainable development involves a comprehensive and integrated approach, which also includes the needs of current and future generations.

[186] See in particular principles 5, 7 and 27 of the 1992 Rio Declaration and Ch.2 on International Co-operation for Sustainable Development of the 1992 Agenda 21.

[187] In its 2002 Report on the Legal Aspects of Sustainable Development the ILA considers that 'the principle of the duty to co-operate' is well-established in international law.

A contrast may be drawn between the concept of sustainable development and that of co-operation. Both concepts are only referred to in general terms in international treaties and decisions, and their concrete application varies from case to case. However, their nature differs. Sustainable development is a goal or aspiration, and thus it is the taking into account of the concept in the decision-making process which is relevant. Conversely, co-operation, in the context of international rivers, is a means to attain optimum utilisation and protection of the watercourse, and thus it is the outcome which is relevant.

These two principles interact in several different contexts.[188] Principle 27 of the 1992 Rio Declaration establishes this relationship in general terms. It reads as follows:

> States and peoples shall co-operate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.

Complementing the Preamble of the Declaration, which recognizes 'the goal of establishing a new and equitable global partnership through the creation of new levels of co-operation among States, key sectors of societies and people', Principle 7 specifies that the purposes of co-operation on sustainable development are 'to conserve, protect and restore the health and integrity of the Earth's ecosystem...'.

While many decisions regarding sustainable development are made at the national level as part of policy decisions, international co-operation is of the essence to implement these decisions, as is widely shown in international treaties and other documents. Fresh water, like other natural resources,[189] is no exception.[190]

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[188] On the relationship between these two principles, see the 2002 ILA Report on the Legal Aspects of Sustainable Development, 7.

[189] Such as fisheries. See, e.g. Articles 5, 8 and 20 of the 1995 UN Agreement Relating to the Conservation and Management of Straddling and Highly Migratory Fish Stocks.

[190] See, e.g. Article 5 of the 1997 UN Watercourses Convention and Article 3(1) of the 1992 Helsinki Watercourses Convention.

2.3.9 The Principle of Good Faith

At the heart of the concept of co-operation lies the fundamental principle of good faith,[191] the foundation of all aspects of inter-state relations. In international law, as in domestic legal systems, all obligations are to be fulfilled in good faith. In the words of Hugo Grotius:

> For good faith, in the language of Cicero, is not only the principal hold by which all governments are bound together, but is the key-stone by which the larger society of nations is united. Destroy this, says Aristotle, and you destroy the intercourse of mankind. [192]

As stated by the tribunal in the *Lake Lanoux* arbitration, 'there is a general and well-established principle of law according to which bad faith is not presumed', and a State is entitled to rely on the word of another State.[193] This was later reiterated by the ICJ in the *Nuclear Tests* Case, but this time expressly recognising good faith as an inherent component part of the principle of co-operation. The Court explained that 'One of the basic principles governing the creation and performance of legal obligations, whatever their source, is the principle of good faith. Trust and confidence are inherent in international co-operation, in particular in an age when this co-operation in many fields is becoming increasingly essential'.[194] One of these fields is undoubtedly that of natural resources.

The principle under discussion is referred to in numerous international documents, such as the UN Charter,[195] and the 1970 Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in Accordance with the Charter of the UN. In the law of treaties this principle is acknowledged as being essential. This is shown in the preambles to

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[191] For an examination of the principle of good faith in international law, see Schwarzenberger (1957), 15ff; Chen (1953), 106-60; O'Connor (1991); White (1994); Goodwin-Gill (2004); and Kolb (2006).

[192] (1625) *De Jure Belli ac Pacis*, Book III, Ch.25: Conclusion.

[193] 24 *ILR* (1957), 126.

[194] ICJ Reports (1974), 268, para.46. The cited *dictum* implies that the principle of good faith applies also to unilateral acts. See Virally (1983), 132. But in the *Border and Transborder Armed Actions* case the ICJ added that the principle of good faith 'is not in itself a source of obligation where none would otherwise exist'. ICJ Reports (1988), 105, para.94.

[195] See Article 2(2).

the 1969 Vienna Convention on the Law of Treaties[196] and the 1978 Vienna Convention on Succession of States in Respect of Treaties, which declare that the principle of good faith, together with the principles of free consent and *pacta sunt servanda*, are universally recognized. In fact, this principle is considered not only to be the basis but also an integral part of the principle *pacta sunt servanda*,[197] which is enshrined in Article 26 of the 1969 Vienna Convention on the Law of Treaties. In the *Gabčíkovo-Nagymaros Project* case the ICJ stated that the rule *pacta sunt servanda*, as reflected in Article 26, required the parties to find an agreed solution within the co-operative context of the 1977 Treaty. The Court explained that 'Article 26 combines two elements, which are of equal importance. It provides that "Every treaty in force is binding upon the parties to it and must be performed by them in good faith." This latter element, in the Court's view, implies that, in this case, it is the purpose of the Treaty, and the intentions of the parties in concluding it, which should prevail over its literal application. The principle of good faith obliges the Parties to apply it in a reasonable way and in such a manner that its purpose can be realized.' (para.142).

In effect, the Court also applied the general rule of interpretation of treaties laid down in Article 31 of the 1969 Vienna Convention on the Law of Treaties. Article 31(1) provides that a treaty shall be interpreted in good faith in accordance with the ordinary meaning of its terms in their context and in the light of the object and purpose of the treaty.

As regards treaties which are not yet in force, States are obliged to refrain from acts which would defeat the object and purpose of the treaty after having signed it or expressed their consent to be bound by the treaty, thus implying a good faith conduct.[198]

In the context of international natural resources, as in most other fields, this principle is also mentioned in numerous treaties and other international

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[196] See also Articles 26 and 31(1), which are declaratory of customary rules. Virally (1983), 130.

[197] See Virally (1983), 132, and Fitzmaurice (2003), 183.

[198] Article 18 of the 1969 Vienna Convention on the Law of Treaties. In the same line, Article 7 of the 1961 IDI Salzburg Resolution provides that 'during negotiations, every State must, in conformity with the principle of good faith, refrain from undertaking the works or utilizations which are the object of the dispute or from taking any other measures which might aggravate the dispute or render agreement more difficult.'

documents.[199] It is clear from the analysis of these treaties and documents, of other state practice, as well as of international case law, that good faith is required in the performance of various specific obligations of co-operation.[200]

In the 1997 UN Watercourses Convention, the link with the principle of co-operation was inserted explicitly by the Sixth Committee in the wording of Article 8 on the general obligation to co-operate.[201] In addition, the obligation to enter into consultations 'with a view to negotiating in good faith' for the purpose of concluding an agreement is enshrined in Article 3(5) and may be triggered by a single watercourse State when it considers that the provisions of the Convention need to be adapted to a particular watercourse.[202] Also in relation to these obligations, the Convention provides in Article 17(2) that States must in good faith pay reasonable regard to the rights and legitimate interests of the other State during consultations and negotiations.[203]

Generally speaking, and as in other areas of the law,[204] the more vague the specific duties to co-operate and the more open the procedures involved are, the more imperative it is for States to act in good faith. And this is always presumed of actors in the international legal order.[205]

2.3.10 The Principle of the Peaceful Settlement of International Disputes

Over centuries, States and international organizations have created substantive and procedural rules in order to settle disputes peacefully. This principle has its foundation in the text of the UN Charter. Article 2(3) and (4) provides that '[a]ll Members shall settle their international disputes by peaceful means', and that '[a]ll Members shall refrain in their international relations from the threat or use of force', thus expressly prohibiting recourse to force.[206] In addition to

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[199] E.g. Principle 7 of the 1978 UNEP Principles on Shared Natural Resources.

[200] A good example is that of the obligation to negotiate. See *infra* s.4.5.1.

[201] See *infra* s.3.2.3.2 and 3.2.4.3.

[202] See also Articles 2(6) and 9 of the 1992 Helsinki Watercourses Convention.

[203] See also Article 10 of the 1992 Helsinki Watercourses Convention. See *infra* s.4.5.1.

[204] See, e.g. in relation to international dispute settlement, Peters (2002), 133.

[205] See, e.g. Virally (1983), 132.

[206] Except in the case of a right to self-defence in the event of an armed attack.

these, Article 33 of the UN Charter establishes an obligation for the Parties to 'seek a solution' by peaceful means in the cases where the continuance of the dispute 'is likely to endanger the maintenance of international peace and security'.[207] But, as Brownlie argues, there is 'no obligation in general international law *to settle* disputes'.[208]

The UN has reiterated this obligation and further elaborates it in some UNGA resolutions.[209] This principle may also be found in other regional or bilateral instruments with a focus on co-operation.[210] In addition, in the *Nicaragua* case the ICJ affirmed that this principle is already part of customary international law.[211]

Different procedures for peaceful dispute resolution may be freely chosen by the parties in the dispute. These include direct negotiation, enquiry, good offices, mediation, conciliation, arbitration, and judicial settlement.[212] Most international disputes are, nonetheless, resolved by diplomatic means, on the basis of the legal advice provided by international law experts.

States are sometimes bound by specific means for dispute settlement under regional or bilateral treaties. This is particularly important in the context of water disputes. In this respect, Article 52(2) of the UN Charter reads that States parties should 'make every effort to achieve pacific settlement of local disputes through such regional arrangements. . . before referring them to the UN Security Council'. This is so in the context of disputes over natural resources since most of them are in fact of regional or local character.

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[207] See generally Hutchinson (1993), who argues that there is an obligation to take action to resolve disputes in some other cases.

[208] Brownlie (2003), 671.

[209] See, e.g. the 1970 Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the UN, which stipulates that the parties to a dispute have an obligation 'to refrain from any action which may aggravate the situation so as to endanger the maintenance of international peace', and the 1982 Manila Declaration on the Pacific Settlement of International Disputes, UNGA Resolution 37/10, of 15 November 1982.

[210] This may be illustrated by Article III(4) of the Charter of the Organization of African Unity, and Article 23 of the Charter of Organization of American States.

[211] ICJ Reports (1986), para.290. For a criticism of this assertion by the Court, see Hutchinson (1993), 117-9.

[212] For an examination of the obligation to negotiate and its relation to other means of dispute settlement, see *infra* s.4.5.2.

Disputes concerning water resources relate in one way or another with co-operation or its absence. When States decide to settle a dispute by peaceful means according to Article 33 of the UN Charter, and they bring the dispute before a court or tribunal, this may be taken as indicating that alternative forms of co-operation at their disposal, in particular negotiations, have not succeeded.

3

The Concept of Co-operation

A word has a meaning, more or less vague; but the meaning is only to be discovered by observing its use: the use comes first, and the meaning is distilled out of it. The relation of a word to its meaning is, in fact, of the nature of a causal law ...
Bertrand Russell, *On Propositions: What They Are and How They Mean*, 1919

The concept of co-operation is widely used today. But in different contexts different meanings may be identified, in most instances associated with its specific applications. So the question is whether there are any circumstances in which the express use of the term 'co-operation' may have legal implications, particularly on the international plane.

We have seen in the previous chapter how the principle of co-operation intertwines with several other principles of international law. But the vagueness of the term allows for its use without the identification of any substance or application, that is, what States, international organisations or private entities are required to do in practice. Thus, even if the obligation to co-operate is apparent, its application has to be determined in the light of all the facts and circumstances of each individual case. Hence, the principle needs to be examined for its own legal character and its legal consequences to be determined.

This chapter begins by focusing on the essence of the principle of co-operation in general and in the context of the law of international watercourses. The meaning of the term co-operation and its variants, including *de facto* –

diplomatic – and *de jure* co-operation, is examined in state practice, notably in its absorption into international legal instruments, in the relevant international case law, and in the views of publicists.

In addition, a comparative analysis of the rôle and application of the duty to co-operate in relation to other fields related to the protection of the environment is made.

3.1 In General

The concept of co-operation has been used for centuries in political discourse with no legal content and is still widely used today; it is used in most instances in a procedural sense to indicate attempts to resolve differences. But in international law co-operation is a frequently used term-of-art. It is a general concept comprising a series of obligations in different contexts.[1]

Generally speaking, co-operation may be defined as the action of working together for the same purpose or on the same task. At the international level, the concept implies the joint work of two or more States, or international intergovernmental and non-governmental organizations, or private entities, for a common purpose so that all may share the benefits.

In this sense, the emphasis of co-operation lies on the collective action of States engaged in joint projects for the common well-being or progress, a joint effort towards a common end where States recognize that the mutual benefit outweighs any individual advantage.[2] Although at the bilateral level the circumstances of the particular case are addressed, it is with multilateralism that interdependence is recognized at regional and global level.

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[1] See, e.g. Lowe and Warbrick (eds.)(1994), where co-operation was examined as a principle related to the environment, terrorism, and UN peacekeeping; and Delbrück and Heinz (eds.)(2002), where this concept is related to the international protection of Human Rights, international economic law, and international dispute settlement.

[2] The advantages of, and conditions for, co-operation have been analyzed by applying game theory and the prisoner's dilemma by Axelrod (1990) and Benvenisti (1996) in interdisciplinary studies with a stronger focus on political science and international relations. For its legal implications, see also Benvenisti (2002). For an overview of these perspectives, see *infra* s.3.2.7.

Nevertheless, it is the examples of failure to co-operate, due to its often serious consequences, that raise awareness that it is necessary. There is no doubt, however, that co-operative action is far more frequent than its absence. This is demonstrated by the number of agreements continuously being concluded.

Friedmann used the expression the 'international law of co-operation' to characterise the general movement that changed the principles and structure of international law, which originated in the nineteenth century and developed after World War II, as opposed to the 'international law of coexistence' between sovereign States. The latter was defined as 'a set of rules of abstention, of adjustment and delimitation between different national sovereignties'. Conversely, the 'international law of co-operation' was defined as positive rules in an expanded international legal order that includes new subjects of international law.[3] This development of international law requiring States to co-operate in order to attain objectives beneficial to all is more evident in areas such as that of transboundary natural resources. Although Friedmann was speaking of international co-operation in practice rather than of a legal obligation, his concept of international law attests that the term may denote not only passive diplomatic relations between States, but also to an expanded type of international relations, the regulation of which calls for positive action with the purpose of achieving a common goal. Indeed, the concept of co-operation may be considered as a means of active and practical expression of 'interdependence' among States.[4]

Whether as a general purpose, a principle or a treaty obligation, the concept of co-operation is used in various international legal instruments applicable to widely different areas, from the Charter of the United Nations[5] and General Assembly Resolutions[6] to bilateral and multilateral conventions on the protection of the environment.[7]

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[3] See Friedmann (1969), 92-93. See also Friedmann (1964).

[4] Pinto (1986), 133.

[5] Articles 1(3), 55 and 56.

[6] E.g. UNGA Resolution 2625 (XXV), adopted on 24 October 1970, containing the 'Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in Accordance with the Charter of the UN'; or UNGA Resolutions 2995 (XXVII), of 15 December 1972, and 3129 (XXVIII), of 13 December 1973, on co-operation between States in the field of the environment.

[7] E.g. Articles 2(2), 3 and 4 of the 1985 Convention for the Protection of the Ozone Layer; or para.9 of the Preamble, Articles 3(5) and 4(1) of the 1992 Convention on Climate Change.

The frequent use of the concept in different legal instruments raises the question of its legal status. Is it just a guiding purpose or is it a means to achieve an end? As well as a treaty obligation, does it also constitute a general principle of law or a rule of customary international law? And are these distinctions at all relevant in practice?[8]

Without entering into a jurisprudential discussion, it seems appropriate here to briefly consider the distinction between principles and rules.[9] According to Dworkin,[10] principles are requirements of justice or fairness or some other dimension of morality. They point towards a result and remain relevant even when they do not prevail. They have a dimension of weight and importance and their relative weight has to be taken into account when they intersect or conflict. They 'do not set out legal consequences that follow automatically when the conditions provided are met', but state 'a reason that argues in one direction, [and] do[...] not necessitate a particular decision... All that is meant, when [one says] that a particular principle is a principle of ... law, is that the principle is one which officials must take into account, if it is relevant, as a consideration inclining in one direction or another'.[11]

Conversely, rules are '*functionally* important', since they stipulate the answers, dictate the result. They operationalize the social goal argued by the principle and set out the legal consequences. When two rules conflict, one of them cannot be a valid rule.[12]

This distinction, however, is not always easy to draw. The difference may be limited to a matter of form since sometimes principles and rules play much the same role. Terms such as 'equitable' or 'reasonable' contained in a rule make its application to some extent dependent upon the principles or policies lying beyond it, making 'that rule itself more like a principle'.[13]

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[8] For practical reasons, the expressions 'principle of co-operation', 'general obligation to co-operate', and 'duty to co-operate' will be used interchangeably throughout the thesis.

[9] For a summary of the debate on the subject, primarily between Hart's positivist legal theory and Dworkin's theory of adjudication, see Freeman (2001), 347-350.

[10] See Dworkin (1977), 22-8.

[11] *Ibid.*, 26.

[12] *Ibid.*, 27.

[13] *Ibid.*, 28.

Brownlie considers that general principles of international law are 'primarily abstractions from a mass of rules [that] have been so long and so generally accepted as to be no longer *directly* connected with state practice'.[14] However, he warns against the 'inappropriateness of rigid categorization of the sources'. Principles may be discernible but their application has to be determined in the light of all the facts and circumstances of the particular situation.

In international law, 'many terms that are inherently vague both for reasons of legal interpretation and for political expediency – "reasonable", "equitable", and "significant", for example – make precise definitions difficult during negotiations.'[15] The concepts leave room for the parties to decide what they mean in practice from the context and in the light of the object and purpose of the treaty. The vagaries of particular treaty drafting exercises cause a number of interpretation problems.

Indeed, the concept under scrutiny is a very abstract one, leading to legal uncertainty in many contexts. The work of international courts and tribunals, international bodies and learned societies, such as the International Law Commission (ILC), the Institut de Droit International (IDI) and the International Law Association (ILA), and the writing of publicists, help to clarify its scope, content, and legal status.

3.2 In the Context of International Watercourses

In the context of international watercourses, the principle of co-operation is articulated as a general obligation in several instruments. In addition to the 1997 UN Watercourses Convention and other regional and particular river treaties, this obligation is contained in numerous intergovernmental and non-governmental instruments, of different nature, quite a few of them focusing on environmental protection. In an attempt to establish the scope, content, and legal status of the obligation of co-operation, these instruments are examined below.

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[14] Brownlie (2003), 18-9.

[15] Beach *et al.* (2000), 13.

3.2.1 General Purposes

The purposes of the obligation to co-operate have been identified in several instruments in the context of international watercourses. The reasoning is that since international water resources are shared, co-operation is crucial.[16]

Like the 1994 ILC Draft Articles, the 1997 UN Watercourses Convention and regional conventions set out a general formulation of the purposes of co-operation.[17] This is because more specific purposes may vary depending on certain factors, such as the geographical characteristics of the river basin, or the uses and needs of the watercourse States.[18]

A commonly referred to purpose is the effective management and administration of the watercourse systems, including the development of harmonized policies, programmes and strategies. Other general purposes frequently mentioned include the optimal utilisation of the water resources, the equitable and reasonable sharing of resources between the watercourse States, the sustainable use and development of the river basin, the prevention, mitigation or elimination of transboundary harm, and the protection and conservation of the environment of the watercourse system and the environment influenced by such systems, such as the marine environment. Co-operation appears as the *sine qua non* condition for achieving all these goals.

But besides these specifically international water resources-related purposes, other general purposes typically linked to international co-operation are also relevant. Some derive from existing or emerging principles of public international law. These comprise, *inter alia*, the prevention and settlement of disputes, the implementation and enforcement of international régimes, the protection and advancement of environmental rights, public access to relevant information, as well as public participation in environmental decision-making, and the investment in capacity-building.

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[16] See, e.g. 1983 Evensen's First Report, 173, para.103.

[17] E.g. Articles 5(2) and 8 of the 1997 UN Watercourses Convention, and Article 2(6) and 9 of the 1992 Helsinki Watercourses Convention.

[18] See the 1994 ILC Report, 106.

3.2.2 The General Obligation to Co-operate and its Applications

Further to the general reference to the need for, and obligation of, co-operation, the concept is used in some cases with a specific meaning. In the law of international watercourses, the principle of co-operation is manifested primarily through specific procedural rules. The 'Procedural Law of Co-operation',[19] which has evolved significantly in recent decades, aims at providing States with some guidance as to the best manner of maintaining co-operation on a continuous basis concerning their common resources.[20] Most procedural obligations developed from recommendations and rules of scholarly associations, and gained consistency through treaty practice, thus indicating an increasing willingness of States to have recourse to them in order to avoid conflict.

The procedural rules play a decisive rôle in the implementation of the substantive principles of equitable and reasonable utilisation and of diligent prevention of significant transboundary harm, as well as in the protection of the environment. They help to ensure that in the decision-making process concerning existing and planned uses of water resources the interests of other States potentially affected are taken into account.[21]

But which are the concrete obligations to co-operate? These procedural rules are, *inter alia*, the obligation to exchange data and information, the obligation to notify planned measures and environmental impact assessments, the provision of emergency information, the obligation to enter into consultations, and the obligation to negotiate in good faith. They have evolved towards more intensive degrees of co-operation, notably through the adoption of an integrated management approach and the establishment of joint institutional mechanisms or commissions, and merit separate assessment.[22]

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[19] Higgins (1994), 136.

[20] Tanzi and Arcari (2001), 21.

[21] See *infra* s.4.1.2.

[22] For the examination of these corollaries, see *infra* Ch.4, and for the different forms and levels of co-operation, see *infra* Ch.5.

3.2.3 Resolutions, Declarations, and Studies by Scholarly Associations and International Organisations

To date the law related to international watercourses has been largely developed by state practice and has been the subject of several attempts at codification by learned bodies.[23] These include the IDI and the ILA, each of which has had this topic on its agenda over several years. But it was the work of the ILC for over two decades that led to the adoption by the UNGA of a framework convention on the matter, the 1997 UN Watercourses Convention.[24]

While the ILC worked on the subject, the international community monitored its progress. The increasing attention paid to water resources matters over the past three decades led to a series of international conferences and a multiplication of soft law instruments. These take differing approaches to the legal aspects of international co-operation over shared natural resources.

3.2.3.1 Resolutions and Studies of the Institut de Droit International and the International Law Association

The IDI and the ILA have over time favoured the limited sovereignty theory.[25] In 1961, the IDI adopted at its Session at Salzburg a Resolution on the Utilization of Non-Maritime International Waters (Except for Navigation) reinforcing this theory. In its Preamble, it recognises that 'the maximum utilization of available natural resources is a matter of common interest' and that 'in the utilization of waters of interest to several States, each of them can obtain, by consultation, by plans established in common and by reciprocal concessions, the advantages of a more rational exploitation of a natural resource'. This was the recognition of the need for co-operation.

Subsequently, the ILA adopted in 1966 the Helsinki Rules on the Uses of the Waters of International Rivers as a statement of existing rules of international law on the subject of the uses of waters of an 'international drainage basin',[26]

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[23] Further to the 1966 ILA Helsinki Rules, the most noteworthy comprehensive work is the 2004 ILA Berlin Rules.

[24] On the work of the ILC, see *supra* s.2.1.3 and *infra* s.3.2.3.2, and on the 1997 UN Watercourses Convention, see *infra* s.3.2.4.3.

[25] See *supra* s.2.2.3.

[26] For the different approaches towards international water resources, see *supra* s.1.2.

an important codification of this area of international law. The Helsinki Rules, although non-binding, represent the first effort at identifying in an all-embracing manner the rights and obligations of States over fresh water.

All uses of the waters were considered through a comprehensive management approach so as to optimise basin water use. The Rules provide that each basin State is entitled to 'a reasonable and equitable share in the beneficial use' of the waters (Article IV and V), subject to local factors. However, the duty to co-operate is not mentioned expressly. Nevertheless, the recognition of the need for co-operation between co-riparians may be taken to be implied, since the Rules recommended the adoption of some procedural rules.[27]

In 1972, however, the ILA set forth a specific obligation to co-operate in its Articles on Flood Control. It went on to specify some of the modalities this co-operation could assume.[28] The Article read as follows:

Article 3

Co-operation with respect to flood control may, by agreement between basin States, include among others:

(a) collection and exchange of relevant data;
(b) the preparation of surveys, investigations and studies and their mutual exchange;
(c) planning and designing of relevant measures;
(d) execution of flood control measures;
(e) operation and maintenance of works;
(f) flood forecasting and communication of flood warnings;
(g) setting up of a regular information service charged to transmit the height of water levels and the discharge quantities.

This is the first time that the ILA asserted that there was an existing international law obligation falling upon basin States to co-operate.[29] This was the opinion of the majority, after a discussion on whether by choice of the word 'should' the article should have only a soft law character.[30] The scope of the obligation was considered by some, such as Manner, as uncertain, since the

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[27] These are the obligation to exchange data and information and the obligation to notify (Article XXIX).

[28] These were included in Ch.VI on 'Flood Control' of the 1999 ILA Campione Consolidation.

[29] Bourne (1996), 179.

[30] Comment to Article 2.

practical requirements were not specified in any detail 'by either law or custom'.[31]

Thus, Article 3 encourages watercourse States to conclude specific agreements on flood control and provides a non-exhaustive list of the 'most urgent and most usual measures'.[32] But the ILA recognised that these measures 'do not represent rights or obligations based on customary law or on general principles';[33] they required an express agreement between governments. The most important consideration was that there was no obligation without previous consent.

The 1979 IDI Athens Resolution, devoted to the pollution of rivers and lakes, also includes a rule which specifically imposes on States an obligation 'at the international level, [of] co-operation in good faith with the other States concerned' (Article IV(b)). This obligation is required in order to comply with the duty not to cause pollution in the waters of international rivers and lakes beyond States' boundaries and the duty to prevent and mitigate any form of pollution. The Resolution went on to specify what, in this context, co-operation entailed. Article VII reads as follows:

1. In carrying out their duty to co-operate, States bordering the same hydrographic basin shall, as far as practicable, especially through agreements, resort to the following ways of co-operation:

a) inform co-riparian States regularly of all appropriate data on the pollution of the basin, its causes, its nature, the damage resulting from it and the preventive procedures;
b) notify the States concerned in due time of any activities envisaged in their own territories which may involve the basin in a significant threat of transboundary pollution;
c) promptly inform States that might be affected by a sudden increase in the level of transboundary pollution in the basin and take all appropriate steps to reduce the effects of any such increase;

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[31] The 1972 ILA Articles on Flood Control, 23. Berber also believed that if any general principles of law existed, they were all so vague that they were incapable of immediate application, such as the principle of good neighbourliness. The 1972 ILA Articles on Flood Control, 45.

[32] Comment to Article 3.

[33] *Id.*

d) consult with each other on actual or potential problems of transboundary pollution of the basin so as to reach, by methods of their own choice, a solution consistent with the interests of the States concerned and with the protection of the environment;
e) co-ordinate or pool their scientific and technical research programmes to combat pollution of the basin;
f) establish by common agreement environmental norms, in particular quality norms for the whole or part of the basin;
g) set up international commissions with the largest terms of reference for the entire basin, providing for the participation of local authorities if this proves useful, or strengthen the powers or co-ordination of existing institutions;
h) establish harmonized, co-ordinated or unified networks for permanent observation and pollution control;
i) develop safeguards for individuals who may be affected by polluting activities, both at the stages of prevention and compensation, by granting on a non-discriminatory basis the greatest access to judicial and administrative procedures in States in which such activities originate and by setting up compensation funds for ecological damage the origin of which cannot be clearly determined or which is of exceptional magnitude.

The term *shall* indicates the character of an obligation, but the caveat 'as far as practicable' adds an element of uncertainty. This is obviously explained by the fact that some of the obligations here specified are not directly applicable but require further agreements with the other basin States. That is also, justifiably, the reason why the Article recommends the conclusion of specific agreements for the application of the different modalities of co-operation.

In step with its 1972 ILA Articles on Flood Control, and the 1979 IDI Athens Resolution on Pollution, the ILA adopted the 1982 Montreal Rules on Water Pollution. Article 4 of the Rules imposes on States the duty to co-operate with the other States concerned in order to give effect to its provisions. The ILA, once again, considered this duty a general principle 'that is now generally accepted',[34] and this time the adoption of the Article met with no opposition.[35]

The 1982 Montreal Rules also include a set of procedural rules. Articles 5, 6, and 10 set out mandatory rules, such as the regular exchange of all relevant

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[34] Comment to Article 4.

[35] Bourne (1996), 189.

and reasonably available data on the pollution of the waters of the basin, the obligation to notify in due time of any activities in their territories or of any sudden change of circumstances that may cause or increase water pollution in other States, the obligation of consultation on actual or potential problems of water pollution in the drainage basin, and the obligation to enter into negotiations when it is contended that the conduct of a State is not in accordance with its obligations under the Articles. The relevance of the procedural rules here is that, although they were already laid down in the 1966 ILA Helsinki Rules, they had then the character of mere recommendations.

Several of these and other studies also recommend the establishment of some form of institutional mechanism or joint commission as a means for maintaining systematic co-operation.[36]

In the 2004 Berlin Rules on Water Resources, the ILA adopted Article 11 which provides for an obligation to 'co-operate in good faith in the management of waters of an international drainage basin'. It decided to use the same concept adopted in its 1966 Helsinki Rules, the concept of *drainage basin*, rather than the concept of *international watercourse system* adopted in the 1997 UN Watercourses Convention, as the latter had been the result of a compromise.[37] But similarly to that Convention, it expressly links this obligation with the right of basin States to participate 'in any co-operative regime that emerges'.[38] The ILA affirmed that the duty to co-operate is 'the most basic principle underlying international water law'.

3.2.3.2 The Work of the International Law Commission

The issue of the inclusion of the principle of co-operation in the draft articles on the law of the non-navigational uses of international watercourses and of its scope was discussed in a number of sessions of the ILC.[39] Two Special Rapporteurs submitted drafts in their reports.[40]

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[36] See *infra* s.5.2.

[37] On this controversy, see s.1.2.

[38] Comment to Article 11. See also Article 10 on participation by basin States.

[39] See in particular the debate in the meetings (2003rd-2008th) of the 39th session in 1987, *Yrbk. ILC* [1987], Vol.I, 70-96.

[40] 1983 Evensen's First Report, 174; 1984 Evensen's Second Report, 113; 1987 McCaffrey's Third Report, 28.

Special Rapporteur Evensen suggested a 'general principle of co-operation' among States in a draft article submitted in his First Report, as well as some other procedural rules under the same heading.[41] In his Second Report, the Special Rapporteur proposed the addition of a second paragraph to emphasise that watercourse States need appropriate assistance from international organizations, such as the UN, FAO, UNESCO and WHO.[42]

It may be of significance that at that time the Special Rapporteur explained the inclusion of the Article on 'General principles of co-operation and management' on the grounds that it was increasingly recognised, notably in the UN Charter and other international instruments, that international co-operation and inter-state management and administration were necessary 'as an international political principle and as a principle of progressive international law as well'.[43] This is confirmation that he considered this principle to be part of the 'progressive development of international law' rôle of the ILC, rather than that of codification.

Subsequently, Special Rapporteur McCaffrey in his Third Report surveyed the support for this general obligation in international agreements, decisions of international courts and tribunals, declarations and resolutions adopted by intergovernmental organisations, conferences and meetings, and studies by intergovernmental and non-governmental organisations relating to the principle of co-operation.[44] McCaffrey's draft Article 10 separated the general obligation to co-operate from other procedural obligations, as well as from the issues regarding management. The text follows closely the wording of Article IV(b) of the 1979 IDI Athens Resolution and Article 4 of the 1982 Montreal Rules.

The debate on Article 10 at the ILC's 39th session focused on the existence and nature of a general obligation under international law to co-operate. Several members were of the view that the obligation of co-operation was an obligation of conduct and an 'umbrella' concept, since it comprised other more specific

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[41] Article 10 on 'General principles of co-operation and management', 1983 Evensen's First Report, 174.

[42] *Yrbk ILC* [1984], Vol.I, 102.

[43] 1984 Evensen's Second Report, 112.

[44] See 1987 McCaffrey's Third Report, 23-8.

obligations. This obligation existed under international law as apparent from international instruments and state practice. Co-operation, it was argued, 'enabled the sovereignties involved to coexist positively while preventing possible abuses'.[45]

Conversely, other members believed that there was no general obligation on States to co-operate under international law, even if there was a need for this co-operation among watercourse States. Co-operation was considered a means to achieve a goal, but did not have the nature of a legal obligation. Therefore, the wording of the Article should be cautious. Nevertheless, even if the obligation had no firm foundation in customary law, the ILC under its mandate for the progressive development of international law could propose the obligation to co-operate *de lege ferenda*.

This divergence of opinion was no obstacle to the inclusion of an article on co-operation. The drafting would have to reflect these differences. Special Rapporteur McCaffrey suggested that an abstract obligation to co-operate would not serve the purpose, since it was 'not a duty to take part with other States in collective action, but rather a duty to work towards a common goal'.[46] He explained that this meant that a watercourse State was not under a duty to participate in the works planned by another watercourse State, but it had the obligation not to prevent this project from being discussed between them.[47] He also agreed with Yankov's proposition to refer in the Article on co-operation to its specific purposes and objectives, as well as to the principles of international law on which co-operation was based.[48]

The final version of Article 8 on the 'General obligation to co-operate' of the 1994 ILC Draft Articles modified the draft suggested by Special Rapporteur McCaffrey in the light of the discussion within the ILC.

The divergent opinions expressed by the ILC members in its meetings were echoed in the meetings of the Sixth Committee. Article 8 was expanded into two paragraphs, with the following wording:

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[45] *Yrbk ILC* [1987], Vol.II, Pt.2, 21.

[46] McCaffrey, Summary records of the meetings of the 39th session, *Yrbk ILC* [1987], Vol.I, 95.

[47] *Id.*

[48] *Id.*

Article 8 (General Obligation to Co-operate)

1. Watercourse States shall co-operate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse.
2. In determining the manner of such co-operation, watercourse States may consider the establishment of joint mechanisms or commissions, as deemed necessary by them, to facilitate co-operation on relevant measures and procedures in the light of experience gained through co-operation in existing joint mechanisms and commissions in various regions.

The discussions both in the ILC and in the Sixth Committee reveal the difficulties surrounding the question of the legal status of the concept of co-operation. At least until 1997 when the UN Watercourses Convention was approved by the UNGA, one could defend any of the positions on the matter with persuasive arguments supported by different or even, ironically, by the same authorities.

Apart from its work on international watercourses, the ILC also examined the concept of co-operation for the purposes of its work on the topic of the international liability for injurious consequences arising out of acts not prohibited by international law.[49] In this context, the ILC adopted the 2001 Draft Articles on Prevention of Transboundary Harm from Hazardous Activities on the basis of Special Rapporteur Pemmaraju Sreenivasa Rao's Reports, and recommended the UNGA to elaborate a convention based on them. The Articles concern the taking of preventive measures in respect of activities not prohibited by international law which involve a risk of causing significant transboundary harm through their physical consequences.

The 2001 Draft Articles include, of course, more specific forms of co-operation, i.e., procedural obligations, such as notification, consultation and exchange of information. As with its previous work on the non-navigational uses of international watercourses, the ILC laid down an obligation to co-operate in Article 4 as follows:

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[49] See *infra* s.6.3.2.

States concerned shall co-operate in good faith and, as necessary, seek the assistance of one or more competent international organizations in preventing significant transboundary harm or at any event in minimizing the risk thereof.

This imposes on the State of origin (i.e., the State under the jurisdiction or control of which the activities are planned or carried out), and on the States likely to be affected, an obligation to co-operate in good faith. But since the context is limited to hazardous activities, the purposes of this co-operation is clearly confined to the prevention of significant transboundary harm or in minimizing the risk of such harm. This corresponds to a duty of due diligence, which is also dealt with in the ILC's previous work on international watercourses.

The reference to a principle of co-operation in these Draft Articles confirms the direct relationship between the substantive obligation of prevention of causing significant transboundary harm and the procedural obligation of co-operation as a fundamental general principle for its application. Moreover, in the comment to Article 4, the ILC uses repeatedly the expression 'principle of co-operation'. The ILC seems to accept Brownlie's earlier view that the 'duty of States to co-operate with each other in mitigating transboundary environmental risks' is an emergent principle of international law. But the content and application of the principle remain vague.[50]

3.2.3.3 Declarations and Resolutions of Relevant International Conferences and Organizations

Co-operation as *lex ferenda* may be found in numerous instruments of intergovernmental and non-governmental nature from the late 1950s.[51] For instance, Article 3 of the Charter of Economic Rights and Duties of States calls for co-operation in relation to shared natural resources in general, and Special

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[50] Brownlie (1998), 286. Curiously, Brownlie in the 2003 edition removed this suggestion. He now praises the draft articles as providing a creative and original régime for the prevention of transboundary harm and the management of risk; but as qualifying the substance of the articles as radical, and as asserting that 'there are no substantive limitations on the activities which States may undertake on their own territory', Brownlie seems to be regressing from his earlier proposition.

[51] See, e.g. UN (1975); Principle XII of the 1968 European Water Charter; UNGA Resolution 2995 (XXVII), of 15 December 1972, and 1973 UNGA Resolution on Co-operation in the Field of the Environment.

Rapporteur McCaffrey considered that it also applied to international watercourses.[52]

Many international policy guidance principles of co-operation have already been the subject of recommendations from different international organisations or conferences. Several international conferences had water high on the agenda, for example, the UN Water Conference, held at Mar del Plata, Argentina, in March 1977, and the Interregional Meeting of International River Organizations, convened by the UN in Dakar, Senegal, in May 1981. These conferences called for co-operative action and recommended the establishment of commissions at the international or regional levels or for the specific river basin. They do not, however, prescribe an obligation. The Mar del Plata Action Plan, adopted by the 1977 UN Water Conference, made a distinction between regional and international co-operation.[53]

These recommendations were reiterated in subsequent conferences. Of particular relevance is the 1972 Stockholm Declaration of the UN Conference on the Human Environment. Principle 24, representing a political commitment to international co-operation in issues related to environmental protection, stipulates that

> ... Co-operation through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States.

Thus, the Action Plan, adopted by the Conference, also provides in Recommendation 51 for co-operation in relation to international watercourses.

The 1972 Stockholm Declaration and Action Plan contributed directly to the 1978 UNEP Principles on Shared Natural Resources, which also embody the obligation to co-operate in Principle 1 and provide for several of its applications in other principles.

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[52] See also 1987 McCaffrey's Third Report, 26.

[53] Recommendations 84-89 and 90-103, respectively.

In 1992, Agenda 21,[54] one of the key results from the UN Conference on Environment and Development (UNCED/Earth Summit), stated in Chapter 18:4 that co-operation among riparian States '*may be desirable* in conformity with existing agreements and/or other relevant arrangements, taking into account the interests of all riparian States concerned',[55] the wording indicating a policy objective rather than a legal obligation.

The 1992 Rio Declaration, however, contains a number of principles incorporating the obligation of States to co-operate for different purposes,[56] as well as setting out different forms of co-operation. Principle 27, however, covers more generally the principle of co-operation *lato sensu*. It declares that

> States and people shall co-operate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.

This wording underlines the importance attached to international co-operation by the international community as a whole, and the political commitment made by governments. But even though this is drafted in apparently binding terms, the Rio Declaration was not generally intended to create legal relations.

While international conferences continue to discuss water issues, policy documents and reports calling for States to co-operate and underlining the rôle of international organizations in assisting States in water resources matters continue to multiply at an exceptionally rapid pace.[57]

3.2.4 General and Regional Conventions

Specific bilateral or multilateral treaties on particular rivers or basin systems are needed, as emphasized by Andrassy,[58] and recognised in several

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[54] Ch.18 deals with the protection of the quality and supply of freshwater resources and outlines specific actions and strategies for those responsible for sustainable management and use of freshwater resources. It is considered a comprehensive blueprint for governmental action.

[55] Italics supplied.

[56] See Principles 5, 7, and 12, and para.3 of the Preamble to the 1992 Rio Declaration.

[57] See *infra* s.5.3.3.

[58] Andrassy (1959), 182.

international instruments and in the literature, to ensure the most equitable and reasonable utilisation of international watercourses. Such treaties have been negotiated, interpreted and applied worldwide.[59] Many international watercourses, however, are not governed by specific treaties, and rely instead on general or regional conventions and existing rules of customary international law. As in other areas of the law, general or regional conventions[60] provide a precise legal framework for States Parties,[61] or may regulate one specific use of the waters.[62]

The attempts at codifying parts of this area of the law have generated several conventions aimed at providing the legal framework for inter-state relations. Many of these conventions refer to the need for co-operation or prescribe it as a general obligation.

3.2.4.1 The Convention on Environmental Impact Assessment in a Transboundary Context

The Convention on Environmental Impact Assessment in a Transboundary Context (the '1991 Espoo Convention')[63] was adopted by the Senior Advisers to Governments on Environmental and Water Problems of the Economic Commission for Europe (ECE) at their fourth session held in Espoo, Finland.

This Convention provides a framework for transboundary environmental impact assessment (EIA). It sets forth, originally for the ECE region, a number of procedural rights and obligations for the Parties to ensure that the environmental transboundary impact of certain proposed activities are considered in the decision-making process and at an early stage of planning. These include an obligation of notification before the EIA (Article 3) and the obligation to enter into consultations on the basis of the EIA documentation

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[59] See *infra* s.3.2.5.

[60] Such as the 1968 and 2003 African Convention.

[61] The paradigmatic example here is the 1997 UN Watercourses Convention, since it has universal application.

[62] E.g. the 1923 Convention Relating to the Development of Hydraulic Power Affecting more than one State.

[63] Signed on 25 February 1991, by 30 signatories, and entered into force on 10 September 1997. There are now 41 Parties to the Convention. On 27 February 2001, the second Meeting of the Parties held in Sofia, Bulgaria, decided to amend the Convention and allow other UN Member States to accede to the Convention This is an important step, as it widens the potential geographical scope of application of the Convention, from regional to universal.

(Article 5).[64] It adopts an integrated approach, requiring a comprehensive environmental assessment of the proposed activity and of alternatives to it. This differs from the subject-matter approach taken by previous treaties. The Convention provides for the notification of the potentially affected State before the EIA takes place in order to facilitate consultations whenever these are required. Furthermore, it provides for the public to be informed so that it may participate in the process.

Appendix I to the Convention lists 17 types of proposed activities which are likely to cause significant adverse transboundary impact. The list, however, is not exhaustive.[65] Several of these activities relate or may be related to water resources. This covers, for example, thermal and nuclear power stations, the construction of ports and inland waterways, large dams and reservoirs, and groundwater abstraction activities.

Paragraph 3 of the Preamble refers to the determination of the Parties to 'enhance international co-operation' on the subject-matter of the Convention, namely assessing environmental impact in particular in a transboundary context. Here, logically, as in so many international treaties, co-operation refers to conduct in general in order to achieve a substantive goal.

As a framework convention, Article 8 – 'Bilateral and Multilateral Co-operation' – calls for the Parties to continue existing, or enter into new, agreements or arrangements in order to implement the obligations under the Convention. Appendix VI specifies elements of this co-operation. These include setting up institutional arrangements or enlarging the mandate of existing ones, or of other different measures. However, the term 'may' used consistently clearly indicates that any of the forms of co-operation mentioned there are suggestions, rather than obligations.

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[64] See *infra* s.4.3.2.

[65] States may enter into consultations to consider other activities.

3.2.4.2 The Convention on the Protection and Use of Transboundary Watercourses and International Lakes

The Convention on the Protection and Use of Transboundary Watercourses and International Lakes[66] (the '1992 Helsinki Watercourses Convention'), like the 1991 Espoo Convention, was concluded under the auspices of the ECE. This regional convention has as chief purpose the taking by States of 'all appropriate measures' to prevent, control and reduce any transboundary impact (Article 2(1)). In particular, these measures should ensure that the transboundary waters are used in a reasonable and equitable way, and with the aim of ecologically sound and rational water management, as well as the conservation of water resources and environmental protection, and, where necessary, the restoration of ecosystems (Article 2(2)).

In Paragraph 1 of the Preamble to the Convention it is recognised that enhanced co-operation is essential in order to accomplish effectively the protection and use of transboundary watercourses and international lakes. This co-operation is set forth in the Convention as a general obligation 'on the basis of equality and reciprocity' (Articles 2(6) and 9(1)). Given its character as a framework Convention, co-operation is implemented primarily through the conclusion of particular bilateral and multilateral agreements or other arrangements to define the riparian States' 'mutual relations and conduct' regarding the prevention, control and reduction of transboundary impact (para. 8 of the Preamble, and Articles 2(6) and 9)). But in contrast to the 1991 Espoo Convention, co-operation here is prescribed as an obligation, and specifically includes the obligation to establish joint bodies.[67]

In addition, the obligation to co-operate is supplemented by a series of procedural obligations. These include, *inter alia*, the obligation to establish and implement joint programmes for monitoring the condition of the transboundary waters and for assessment of any transboundary impact (Article 11), the obligation to exchange data and information regularly (Articles 6 and 13), the obligation to undertake joint research and development activities (Articles 5 and 12), the obligation to provide emergency information and mutual

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[66] Signed at Helsinki, Finland, on 17 March 1992, by 26 States, and entered into force on 6 October 1996. There are now 36 Parties to the Convention.

[67] See *infra* s.5.2.

assistance (Articles 14 and 15), and the obligation of consultation (Article 10). This has to be achieved on the basis of 'reciprocity, good faith and good neighbourliness' (Article 10), and through joint bodies (Article 9(2)). Although a regional Convention, its influence has extended far beyond its boundaries.[68]

Several additional instruments followed the Convention. The 1999 Protocol on Water and Health is particularly relevant as it provides an unusual structure and approach to co-operation. Articles 11 to 14 of the Protocol refer to different spheres of international co-operation. First, it sets out a general obligation to co-operate in international actions in support of the objectives of the Protocol and in the implementation of national and local plans (Article 11). But the obligation is made more precise in the following Articles: Article 12 provides for co-operation concerning transboundary waters, listing different forms of promoting joint and co-ordinated international action; and Article 14 provides for international support from other parties for the action required at the national and local levels.

3.2.4.3 The United Nations Convention on the Law of the Non-navigational Uses of International Watercourses

Although not yet in force, the 1997 UN Watercourses Convention[69], a universal framework convention, is the result of a long process of codification and progressive development of international law by the ILC on the topic of the law of the non-navigational uses of international watercourses. Thus, it has been said to provide 'decisive evidence that the utilisation régime of international watercourses has rules which form part of customary international law'.[70]

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[68] On the importance of UNECE Conventions in the pan-European context and beyond, see Bosnjakovic (2001), 263-282.

[69] Adopted by UNGA Resolution 51/229, of 21 May 1997. In accordance with Article 34, the Convention was opened to all States and regional economic integration organizations for signature. So far only 16 States have ratified the Convention (Finland, Germany, Hungary, Iraq, Jordan, Lebanon, Libya, Namibia, The Netherlands, Norway, Portugal, Qatar, South Africa, Sweden, Syria, and Uzbekistan). Article 36 of the Convention requires 35 States to ratify, accept, approve or accede it for its entry into force.

[70] Bruhács (1993), 77. See also McCaffrey (1998), 26-27, where the former Special Rapporteur asserts the international customary character of the obligations to use the international watercourse in an equitable and reasonable manner, not to cause significant harm, and to notify potentially affected riparian States of planned measures on the international watercourse.

However, uncertainty still remains concerning the legal status of some of its provisions.[71]

Once in force, the Convention will provide the framework for 'watercourse agreements, which apply and adjust the provisions of the Convention to the characteristics and uses of a particular international watercourse or part thereof' (Article 3). The Convention applies to uses of international watercourses and their waters for purposes other than navigation, and urges measures of protection, preservation and management related to those uses (Article 1).

The Convention lays down in Article 8(1) a general obligation to co-operate 'on the basis of sovereign equality, territorial integrity, mutual benefit and good faith'. This general enunciation of the principle is intended to enhance the 'normative force of other provisions of the Convention on specific aspects of co-operation'.[72] In addition, the Article specifies the two purposes of the obligation as the 'optimal utilisation and adequate protection of an international watercourse', thus establishing a clear link between the rules on the use and the rules on the protection, preservation and management of international watercourses.[73]

The 1997 UN Watercourses Convention also lays down in Article 5(2) the principle of participation, which, according to the wording of the article, includes both the right of riparian States to utilise the watercourse and the duty to co-operate in the protection and development thereof. The obligation of States to co-operate is, in the view of the ILC, one of the component parts of the obligation of participation. The form of co-operation suggested in Article 8(2) is the establishment of joint mechanisms or commissions 'to facilitate co-operation on relevant measures and procedures'.[74]

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[71] As observed by Benvenisti (1996), 414 n.176, 'The . . . convention has a dual character: many of its provisions are non-binding, yet the instrument is supposed to reflect existing law. The text is therefore unclear on the rights and obligations of riparians absent an agreement.' On the issue of the legal status of the obligation to co-operate *stricto sensu*, see *infra* s.3.2.7, and of the procedural applications, see *infra* Ch.4.

[72] Tanzi and Arcari (2001), 183.

[73] See also comments 1, 2 and 6 to Article 8, and comment 1, and 17 to Article 9 of the 1994 ILC Draft Articles. See also Nollkaemper (1993), 155-8.

[74] On the issue of non-binding institutional co-operation, see *infra* s.5.2.

The Convention also lays down several procedural obligations[75] which are corollaries of the general obligation to co-operate. These include the duty to exchange data and information (Article 9 and 11), the duty to notify planned measures with possible adverse effects (Articles 12 to 16), the duty to enter into consultations, and 'if necessary' to negotiate concerning planned measures (Articles 11 and 17). As the main concern of the Convention is the management of the entire international watercourse, it requires consultations and suggests the establishment of joint mechanisms or commissions to this effect.[76]

A large number of international watercourses are not governed by specific treaties, and rely instead on multilateral conventions and existing rules of customary international law. In this respect, the 1997 UN Watercourses Convention is of the utmost importance. Even though it is not yet in force, its framework character 'may nevertheless offer appropriate terms of reference for the parties to a watercourse dispute to reach a mutually agreeable assessment on a case-by-case basis.' Tanzi observes that 'the Convention provides an obligation of co-operation as the catalyst for achieving such a mutually agreeable assessment'.[77] In the context of international watercourses, there is '. . . the objective need that a legal principle in the field be drafted in most general terms in order to encompass the multifarious geographical, economic, technological, and political features applying to different prospective, or actual, utilisations of a given international watercourse.'[78]

The 1997 UN Watercourses Convention is said to reflect the difficulty of merging legal and hydrologic intricacies.[79] It combines important principles, such as co-operation and joint management, as well as equitable and reasonable use and the obligation not to cause appreciable harm, the relationship of which mirror the complex upstream/downstream conflict. This is undoubtedly true, but it is an inescapable characteristic of any agreement or arrangement between States on the matter of shared water resources.

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[75] See *infra* Ch.4.

[76] Management includes planning of sustainable development, promotion of rational and optimal utilisation, protection and control of watercourses (Article 24).

[77] Tanzi (1998), 467-8.

[78] *Ibid.*, 469.

[79] Beach *et al.* (2000), 14.

Due to the sensitivity of the subject and divergent positions adopted by States at the UN Sixth Committee, it is believed that this Convention, although adopted by the UNGA, will never enter into force. The fear is that the Convention will have the same fate as the failed attempt to establish a universal régime with the 1923 Convention relating to the Development of Hydraulic Power Affecting More than One State.[80] Although the need for more ratifications of the 1997 UN Watercourses Convention is acknowledged by governments and international organisations, for instance in the 'Water for Peace' theme sessions of the 2003 Third World Water Forum,[81] the Ministerial Declaration at the end of that forum yet again did not include a reference to the Convention. It seems evident that although States recognise several obligations in the field in soft law instruments, there is not yet the political will required for governments to accept them in legally binding terms.

Nevertheless, the ultimate test of this legal régime is that of its implementation, when the framework is actually applied to very different watercourse systems in a variety of regional contexts.

3.2.4.4 The EC Water Framework Directive

In order to contribute to the implementation of the obligations stemming from the 1992 Helsinki Watercourses Convention, as well as other international conventions on water protection and management, the EC adopted Directive 2000/60/EC, known as the 'EC Water Framework Directive' (or WFD).[82] A major instrument concerning water policy, the Directive must be transposed into the domestic legal order not only of the 15 Member States at the time of adoption, but from May 2004, of 10 more Member States, and 12 on January 2007 with accession of Romania and Bulgaria.

This Directive provides a framework for action by EC Member States to achieve efficient, integrated water resources management at the river basin level by preventing water degradation, and in linking sustainable development to the quantitative attributes of water supply. It revives the river basin approach and

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[80] This Convention was ratified by eleven States only.

[81] Franz (2003).

[82] Directive 2000/60/EC of the European Parliament and of the Council, of 23 October 2000, establishing a framework for Community action in the field of water policy. It entered into force on 22 December 2000. On the WFD see, e.g. Savenije and van der Zaag (2000), or Götz (2005).

provides for the establishment of a single river basin management plan by the riparian Member States in order to optimise the management of European transboundary watercourses (Article 13). This requires close co-operation, notably through co-ordination of administrative structures and competent authorities within river basin districts (Article 3). As a framework Directive, it requires implementation structures to be established at the national and regional level.

The Directive embraces the river basin as a geographical and legal unit which reflects the recognition of the interdependence of basin States and the need for some form of co-operation.[83] But the Directive goes further to create a 'river basin district' as its basic management unit.[84] The concept developed from the geography of drainage basins as a unit for planning and management purposes.

While adopting an ecosystem-based approach for water resource management and water policy, the principle of co-operation is the basis for the co-ordination of administrative structures to support measures to control discharges. The quantitative water aspects are addressed here only as a component of water quality.

The Directive prescribes a very high level of co-operation between States and provides a key point of reference for other States.

3.2.4.5 The 1995 and 2000 Southern African Development Community Water Protocols

In 1995, the Southern African Development Community (SADC) States concluded a Protocol on Shared Watercourse Systems in the SADC Region.[85] This Protocol, concluded to a large extent for the purpose of establishing river basin management institutions (Articles 3 to 6), has never been implemented.

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[83] See, e.g. Preamble paras.(13) and (35), and Article 2(13), which defines river basin as 'the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta'.

[84] Article 2(15), which defines 'river basin district' as 'the area of land and sea, made up of one or more neighbouring river basins together with their associated groundwaters and coastal waters, which is identified under Article 3(1) as the main unit for management of river basins.'

[85] Adopted in Johannesburg, on 23 August 1995. The Parties to the Protocol were the then ten members of the SADC, except for Angola.

This was due to the fact that, soon after its conclusion, the 1997 UN Watercourses Convention was adopted and States felt the need to include in their Protocol fundamental principles that were absent initially. Hence, this fact may be interpreted as suggesting that States do not regard those principles as part of customary international law, but rather a preferred statement of *lex ferenda*. The 1995 Protocol was subsequently replaced by the 2000 SADC Revised Water Protocol,[86] some of whose terms were taken directly from the 1997 UN Watercourses Convention.

The overall objective specified in Article 2 of the 2000 SADC Revised Water Protocol is 'to foster closer co-operation for judicious, sustainable and co-ordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation.' For the purposes of the Protocol some general principles are to be applied such as that of close co-operation with regard to the study and execution of all projects likely to have an effect on the régime of the shared watercourse (Article 3(5)) as well as on the protection and development of the watercourse as part of a principle of participation (Article 3(7)(b)). The latter is an exact reproduction of Article 5(2) of the 1997 UN Watercourses Convention.

The Protocol also provides procedural rules. In Article 3(6), it imposes an obligation to exchange available information and data of a certain type.[87] Other specific provisions follow the 1997 UN Watercourses Convention in their general terms, and occasionally even *ipsis verbis*.[88]

In addition, the 2000 SADC Revised Water Protocol provides in Article 5 an institutional framework for its implementation, establishing four committees at different levels and with diverse functions, and requires from watercourse States the establishment of commissions, water authorities or water boards.[89]

This Convention is of interest as the first Convention in the region on common utilisation and management of shared watercourses.

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[86] Signed in Windoek, on 7 August 2000, by 13 Member States, and entered into force on 22 September 2003. The only State which did not sign it was the Democratic Republic of Congo.

[87] See *infra* s.4.2.

[88] See, e.g. Article 4.

[89] See Salman (2001).

3.2.4.6 Other Relevant Legal Instruments

The obligation to co-operate is affirmed in some other international environmental treaties of global or regional application the ambit of which includes transboundary water resources.[90]

As with water-orientated treaties, the duty to co-operate is sometimes expressed in general terms, usually in relation to the implementation of the objectives of the treaty[91] or in relation to specific purposes,[92] sometimes translated into specific applications,[93] and often calling for the establishing of institutional mechanisms.[94]

A significant example is the 1985 Convention for the Protection of the Ozone Layer, which provides in Article 2(2) general obligations to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the Ozone Layer. This includes, for example, the obligation to co-operate by means of systematic observations, research and information exchange

It should be noted that although the term *shall* implies a legal obligation, the overall wording indicates that this is not precise and that its application depends on factors such as *means at disposal* and *capabilities*. It is the legal reflection of the different levels of development of States.

The following Articles apply the general obligation. Article 3 sets forth an obligation for the parties to co-operate directly or through competent international bodies in the conduct of research and scientific assessments and

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[90] For the 1982 UNCLOS and the 1992 CBD, see *infra* s.3.3.

[91] E.g. Article XVI(1) of the 1968 African Convention and Article XXII of its 2003 revised version; Article 1 of the 1978 Treaty for Amazonian Co-operation; para.4 of the Preamble, Article 2(1), and 3(1) of the 1992 Industrial Accidents Convention; Articles 3(5) and 4(1)(e) of the 1992 Convention on Climate Change; Articles 3, 4(2), and 12 of the 1994 UN Convention to Combat Desertification; or Article 5 of the 1992 CBD. See *infra* s.3.3.2.

[92] E.g. Article 14 of the 1989 Fourth ACP-EEC Convention of Lomé and Article 32 of the ACP-EC Cotonou Agreement.

[93] E.g. Articles 3(2), 4, 5, 10, 12, 14-17 of the 1992 Industrial Accidents Convention; Articles 4(1), 5, 6(b) of the 1992 Convention on Climate Change; or Articles 8 and 14 of the 1995 UN Agreement Relating to the Conservation and Management of Straddling and Highly Migratory Fish Stocks.

[94] E.g. Article 17 of the 1992 Industrial Accidents Convention.

systematic observations, and to ensure the collection, validation and transmission of research and observational data through appropriate world data centres in a regular and timely fashion. In addition, Article 4 provides for co-operation in the legal, scientific and technical fields, particularly through the exchange of data and information and the development and transfer of technology and knowledge, and specifies the forms to apply the obligation.

3.2.5 Bilateral and Multilateral Treaties on International Watercourses

From the eighteenth century, international treaties have been predominant in regulating interstate relations concerning international watercourses. The number of treaties and the variety of subject-matter covered increased considerably with time.[95] Traditional treaties were concerned with establishing watercourse boundaries[96] or with navigation.[97] Subsequently, agreements were concluded for regulating specific water utilisation methods, such as irrigation, flood control, or hydro-electric power generation, or a specific water project. Consequently, other uses, if mentioned in the agreement, were regulated only by connection to the principal utilisation.

This is the case of the large number of treaties governing the planning, construction, operation, and regulation of effects of dams on international

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[95] There are several lists of treaties, some of them by region. For a comprehensive chronological list of treaties, see, e.g. Sohnle (2002), 469-519; for a list of treaties by region, see Wolf, UNEP, and FAO (2002), *Atlas of International Freshwater Agreements*, also at http://www.transboundarywaters.orst.edu/publications/atlas/, which is based on FAO's legislative database, FAOLEX at http://faolex.fao.org/faolex/, the joint UNEP, IUCN and FAO gateway to environmental law, ECOLEX at http://www.ecolex.org, and the Oregon State University's Transboundary Freshwater Dispute Database and its International Freshwater Treaties Database at http://www.transboundarywaters.orst.edu/.

For lists and texts of the treaties concerning the non-navigational uses of international watercourses, see FAO (1993) on rivers in Europe, FAO (1995) on rivers in Asia, and FAO (1997) on rivers in Africa. For more recent treaties, see FAO's database at http://faolex.fao.org/faolex/index.htm, which also provides national legislation.

In 1993, the UNECE also compiled systematically a list of bilateral and multilateral agreements and other arrangements concluded within the UNECE region. See UNECE's website for an update at http://www.unece.org/env/water/partnership/part621.htm.

[96] E.g. the 1864 Luso-Spanish Boundaries Treaty, or 1909 US/Canada Boundary Waters Treaty.

[97] E.g. the 1921 Barcelona Convention and Statute, or the 1922 Statute of Navigation of the Elbe.

watercourses.[98] Many of these treaties reveal a high degree of co-operation. In general, they follow the model of contractual agreements, notably by balancing States' interests. Generally speaking, there are four methods of co-operation.[99] The first concerns dams built by one State for its own benefit. The treaties are concerned with the effects of dams on other States and their regulation, where the payment of compensation for any damage caused or the right to receive some electric power in return may be provided for. [100] Similarly, the second concerns the construction of a dam by one State but on behalf of both States.[101] There are only a few of these treaties. Conversely, there are numerous treaties providing the third modality of co-operation. Each State constructs and operates a part of the joint project, but they establish a joint commission or arrange another mechanism to supervise or co-ordinate the works. In the alternative, States may delegate their tasks to specific agencies.[102] Finally, States may establish or authorise a separate entity to construct and operate the project on their behalf. This entity may be an international organisation, such as Itaipu Binacional, established by Brazil and Paraguay specifically for the project,[103] or a concessionaire, i.e., a company created under the domestic law of one State, whether already in existence or to be established for the purpose. This method was frequently used in Europe.[104] It should be noted that the WCD promoted a model of a basin-wide agreement, which in turn may provide the framework for particular projects.[105]

The agreements on dams seem to develop towards the use of separate entities rather than direct State supervision, be that for reasons of efficiency or to encourage foreign investment.[106]

According to a study, the majority of treaties on international watercourses since 1874 are bilateral and focus on a sole water use.[107] From the total of 145

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[98] For a survey of existing treaty practice on the subject, see Happold (2005).

[99] See Happold (2005), 583-589, and the examples provided therein.

[100] E.g. the 1959 Lake Inari Agreement.

[101] E.g. the 1949 Owen Falls Dam Agreement.

[102] E.g. the 1986 Lesotho Highlands Water Project.

[103] See the 1973 Treaty of Itaipú.

[104] E.g. the 1969 Agreement concerning the Development of the Rhine.

[105] Happold (2005), 603.

[106] *Ibid.*, 589.

treaties examined, 124 (86%) are bilateral treaties, and only 21 treaties (14%) are multilateral. Most of the treaties focus on hydro-electric power generation (57 treaties/39%) or water supply (53 treaties/37%).

These types of use, together with the increased demand for water, required the establishment of some form of joint institutional mechanism.

More recently, the number of treaties shifting the focus from the mere allocation of waters to an integrated management approach is increasing. In fact, the provision of mechanisms of co-operation in the development of water resources of river basins in their entirety or in part reflect a more modern approach in negotiations. Although the issues to be negotiated have become more complex, more recent treaties cover a wider range of subject-matter, and provide for a more integrated approach. The field of application of the treaties provides for both quantitative and qualitative protection of water resources, as well as water management issues. States recognise that in this way they may better protect and preserve the river environment and may maximise the benefits derived from the river basin by pooling the advantages of each State derived from geographical characteristics. Recent treaties demonstrate a trend towards the conclusion of more comprehensive agreements between basin States, on the one hand, and the adoption of more detailed rules regarding procedures, notably within a joint institutional mechanism, on the other.[108]

This is the case with the Iberian Peninsula's treaties. In the 1960s, Portugal and Spain concluded two treaties which focused on the specific use of water for hydro-electric power generation. Following the evolution of international water law in Europe, in particular the UNECE Conventions, the 1998 Luso-Spanish Agreement establishes a Joint Commission for the application and development of the Treaty and covers a wide regulatory scope with quite precise procedural rules.[109]

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[107] For the list of 145 water treaties adopted from 1874 until 1996, see Beach *et al.* (2000), 50ff. and 132ff.

[108] Bruhács (1993), 61, referred to two different situations: when the purpose of the treaty is to co-ordinate the use of the water, it usually sets forth some prohibitions; when its purpose is to carry out a joint utilisation, than the agreement has to provide detailed regulation.

[109] See the 1964 River Douro Treaty, the 1968 Luso-Spanish Rivers Treaty, and the 1998 Luso-Spanish Agreement. On the transboundary water issues of the Iberian Peninsula see, e.g. Crucho de Almeida (2000), 279-99.

There are several other cases. For instance, the Treaties of Peace between Peru and Ecuador – the 1998 Brasília Accords –, which mark the end of a bilateral dispute. The approach adopted by the negotiators is an original one since the Global and Definitive Peace Agreement includes a series of specific agreements dealing with different issues in an integrated and comprehensive manner.[110]

Notwithstanding this trend, in practice international treaties are not based on the idea of community of interests, but are negotiated agreements focusing on particular interests. Hence, many of the documents adopt practical solutions with limited reference to general principles.

Some treaties, however, use the term co-operation *stricto sensu*, i.e., not only for its political connotation, but implying duties. Most treaties refer to co-operation in relation to substantive obligations or for the implementation of one or more purposes of the treaty.[111] Examples include the 1994 Treaty of Peace between Jordan and Israel (Article 6(2)) and Article VI of Annex II), the 1994 Danube Convention (Article 2).

Other treaties refer to co-operation in connection with different general principles, such as good faith, good neighbourliness, sovereign equality, and territorial integrity, as an indication of its legal basis,[112] for example, the 1995 Mekong River Agreement (Article 4). But most treaties on watercourse uses – and they are numerous – specify one or more forms of co-operation.[113] As many treaties lay down quantitative specifications of obligations, or set forth technical arrangements, they cover a variety of procedural obligations, such as the provision of data and information, the regulation of methods of notification and consultation, or the establishment of joint mechanisms or commissions.[114]

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[110] These include a 'Comprehensive Agreement for Border Integration, Development and Neighbourliness,' a Foundation Agreement on the Administration of the Zarumilla River basin, as well as the 'Regulation for the Management of the Zarumilla Canal and the Use of its Waters', which establishes a Permanent Binational Commission for the Administration of the Zarumilla Canal and the utilisation of its waters.

[111] Earlier treaties also refer specifically to the obligation to co-operate. These include the 1960 Indus Waters Treaty (Article VII); the 1963 Niger Basin Act (Article 4); the 1964 Statutes relating to the development of the Chad Basin (Article 1); the 1972 Statute of the Senegal River (Article 2).

[112] McCaffrey, *Yrbk ILC* [1987], Vol.I, 95.

[113] See *infra* s.5.1.

[114] Bruhács (1993), 61.

3.2.6 Co-operation Viewed from the Bench: Decisions of International Courts and Tribunals

In the contemporary history of the law of international watercourses, only a few disputes have actually been adjudicated by international courts and tribunals. Most controversies on international water resources are resolved by negotiations and the adoption of some form of agreement. In many instances States are reluctant to have recourse to a third party for settling the dispute peacefully.[115] This may be explained by the fact that shared natural resources are, in the majority of cases, of crucial importance to the States involved. The sensitive issues raised, such as the limitation of the State's sovereignty, then fuel the sentiment of national pride causing pressure on the Government to maintain a firm position while defending their national interests before co-riparians.

The following cases have addressed the problem of sharing the flow of a particular international river. Although most of these cases turn on the interpretation of existing treaties, the cases brought before the Permanent Court of International Justice (PCIJ), the Central American Court of Justice, arbitral tribunals, and the ICJ, also assisted the clarification of the existence or absence of rules of customary international law and general principles of international law on the subject.

For our purposes, the cases examined here are those which refer directly to the obligation of States to co-operate in relation to shared water resources, and also those which contribute to the clarification of this principle by pointing to different forms of its implementation. The relevant cases relating to the Law of the Sea are described later.[116]

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[115] See *supra* s.2.3.10, and *infra* s.4.5.

[116] See *infra* s.6.2.3.2.

3.2.6.1 San Juan River Arbitration and Case [117]

On 15 April 1858 Nicaragua and Costa Rica concluded the Cañas-Jerez Treaty, the Treaty of Limits, delimiting their common boundaries. This Treaty recognised in Article IV that parts of the bank of the San Juan River belonged to Costa Rica. It further set out in Article VI the exclusive 'dominion and sovereign jurisdiction' of Nicaragua over the waters of that river, and the 'perpetual right of free navigation' of Costa Rica for the purposes of commerce. In addition, Article VIII gave Costa Rica a right to be notified and consulted prior to any canal or transit contracts projected by Nicaragua together with a right of veto. In urgent cases Costa Rica's opinion had to be rendered within the period of 30 days after the receipt of communication. The only exception where Costa Rica's opinion was only advisory was where its 'natural rights' were not injured.

When a dispute arose regarding the validity of the Treaty of Limits, the parties submitted the question to the arbitration of the United States Government by a Convention of 24 December 1886. The Convention provided that if the Treaty was determined to be valid, some questions of interpretation should be decided. These included the issue of the obligation to consult before granting canal contracts.

President Cleveland of the United States, the Arbitrator, held in his Award of 22 March 1888 that Costa Rica was not bound to concur with Nicaragua in the expenses necessary to keep navigation on the river free or to improve it for the common benefit. He further decided that Costa Rica could not prevent Nicaragua from executing at its own expense and within its own territory improvement works, provided that such works did not result in the occupation or flooding or damage of Costa Rican territory, or in the destruction or serious impairment of Costa Rica's navigation rights. Costa Rica had the right to demand indemnification for any places belonging to it on the right bank of the River San Juan which might be occupied without its consent, and for any lands on that bank that might be flooded or damaged in any other way in consequence of the works of improvement. In addition, Nicaragua was not

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[117] See Robb (1999), 15ff. See the Award rendered by US President Grover Cleveland on 22 March 1888, and the Judgment of the Central American Court of Justice (Costa Riva *v.* Nicaragua) of 30 September 1916.

allowed to make any grants for purposes of canal construction on its territory 'without first asking the opinion' of Costa Rica, as provided in Article VIII of the Treaty of Limits.

The award also clarified the expression 'natural rights' in Article VIII of the Treaty of Limits. The term included the rights that Costa Rica possessed in the soil recognised in the Treaty as belonging exclusively to it in the common harbours, in the River San Juan, and possibly other unspecified rights. These rights were deemed to be injured in any case where the territory belonging to Costa Rica was occupied or flooded; where there was an encroachment upon a common harbour injurious to Costa Rica; or where there was such as obstruction or deviation of the River San Juan as to destroy or seriously impair navigation at any point where Costa Rica was entitled to navigate.

The arbitrator also held that besides consultation, consent by Costa Rica was required where the construction of an inter-oceanic canal would involve an injury to the natural rights of Costa Rica. In this case, Costa Rica was entitled to demand compensation for any concessions which it agreed to make.

Nevertheless, without ever notifying or consulting Costa Rica, Nicaragua negotiated and concluded with the United States the Treaty for the Construction of an Inter-Oceanic Canal on 5 August 1914, the Bryan-Chamorro Treaty. By this treaty, Nicaragua granted the US Government 'the unencumbered and exclusive rights necessary and convenient for the construction, operation and maintenance of an inter-oceanic canal by way of the San Juan River and the Great Lake of Nicaragua, or by any other route in Nicaragua territory' (Article 1). The terms of performance were to be agreed between the two governments on deciding to build the canal.

Costa Rica started proceedings against Nicaragua in the Central American Court of Justice on the grounds that Nicaragua by concluding the Bryan-Chamorro Treaty violated its rights under the Treaty of Limits and President Cleveland's Award. Costa Rica claimed *inter alia* that it had not been consulted in regard to the Bryan-Chamorro Treaty, and that since there were potential injuries to its territory, Nicaragua needed its consent.

The Central American Court of Justice, by decision of 30 September 1916, declared that the Government of Nicaragua by granting rights for the construction of the inter-oceanic canal by way of the River San Juan had violated the obligation to consult Costa Rica prior to agreeing on any canal project that could affect Costa Rica's 'natural rights'. The obligation to notify and to consult imposed by the Cañas-Jerez Treaty, and confirmed by President Cleveland's Award, should have been carried out sufficiently early for practical results to be possible, i.e., for the decision-making process to benefit from the opinion of Costa Rica. The proposed work necessarily implied the occupation of Costa Rica's shore, inundation of its territory and the use of its affluents, that is, it involved the violation of Costa Rica's natural rights. Therefore, its consent was required. The question of the stage at which the obligation to consult must be discharged was also addressed. It was not necessary to wait until these natural rights had suffered concrete and material injury or until the site of the planned work had been located to determine whether Costa Rica had to be notified and consulted. The Court asserted that it was a principle of inter-state relations that a State was entitled to demand 'redress, in the name of its fundamental rights of existence and preservation, for an act that involves a simple menace or danger to the development of those rights'.[118]

Although it concerned the construction of treaty obligations, some general conclusions may be drawn from the case. Firstly, it is worth noting that the parties agreed on procedural rules, including the right of veto in some circumstances, in the case of improvement works.

Secondly, the obligation to consult is well-characterised. Even though this case is not often referred to, the decision contributed to the clarification of what consultation entails and when the obligation is triggered. Consultation to be meaningful should take place as an act preliminary to any final decision, also as a preventive measure, i.e., at a time conducive to obtaining some practical result and certainly before any harm has occurred. In fact, the Treaty of Limits did not concede to Costa Rica the right to be consulted solely in regard to its own exclusive interests, but for the purpose of its pointing out the inconveniences that the concession might occasion to either country, i.e., to their common interest.[119]

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[118] Robb (1999), 39.

[119] *Ibid.*, 37-8.

Thirdly, it is interesting to note that the diplomatic exchanges between the two States shows that Nicaragua had repeatedly complied with the obligation to consult Costa Rica before the decision and had exchanged views on the subject of canal concessions. In fact, the history of the two States, in particular at the time the Treaty of Limits was concluded, shows that the diplomatic relations between them were strengthened. Hence, any important undertaking on a common resource would naturally involve a joint decision-making procedure.

Again in a dispute concerning the navigational and related rights of Costa Rica on the San Juan River, this State brought a case against Nicaragua to the ICJ in September 2005. In its application, Costa Rica argues, *inter alia*, that Nicaraguan conduct has prevented Costa Rica from free and full exercise and enjoyment of its rights on the San Juan river, notably by imposing restrictions on the navigation of Costa Rican boats and their passengers. This conduct also prevented Costa Rica from fulfilling its obligations under existing agreements. According to Costa Rica, Nicaragua has not co-operated in order to solve this dispute. On the contrary, its National Assembly has passed a resolution threatening to impose economic sanctions against Costa Rica in the event of its bringing the dispute to the Court. In addition, it has rejected different attempts by Costa Rica to resolve the dispute by diplomatic means or other alternative peaceful means, such as mediation through the Organization of American States or international arbitration.

Albeit in the context of specific treaties mainly on navigation, and in the sequence of recent international decisions, this may be another occasion for further consideration of the applications of the obligation to co-operate.

3.2.6.2 *Case Relating to the Territorial Jurisdiction of the International Commission of the River Oder* [120]

The PCIJ was called upon to resolve an issue relating to navigation in the River Oder.[121] The relevance of this case for our purposes lies in the concept of 'community of interest of riparian States', which was articulated for the first

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[120] (Czechoslovakia, Denmark, France, Germany, United Kingdom, and Sweden/Poland), Judgment of 10 September 1929, PCIJ (1929), Series A, 5-32.

[121] For an analysis of the case, see, e.g. Lammers (1984), 505-7; or McCaffrey (2001), 180-3.

time by the PCIJ, and so introduced into the general law applicable to watercourses.

The River Oder was internationalised by Article 331 of the 1919 Treaty of Versailles.[122] Like other European rivers, such as the Danube or the Elbe, the Oder and all navigable parts of its system 'which naturally provide more than one State with access to the sea' was declared international for the purposes of free navigation.

Under Article 341 of the Treaty of Versailles, an International Commission would administer the River Oder, which had 'to define the sections of the river or its tributaries to which the international régime shall be applied'. The Court was asked to decide whether the jurisdiction of the International Commission of the Oder extended to two tributaries of the Oder, the Warthe (Warta) and the Netze (Noteć), which were situated in Polish territory, and in the event of an affirmative finding, to establish which law should govern the determination of the upstream limits of that jurisdiction.

Since the navigability of the Warthe and the Netze in Polish territory was assumed, the Court had to deal with the question of whether the part of the two tributaries above the German frontier could be regarded as providing more than one State with access to the sea. The six governments maintained that this condition was fulfilled since this applied to the waterway as such and not a particular part of its course.

Although the case turned essentially on treaty construction, the PCIJ considered it necessary to analyse the principles governing international fluvial law in general. The essential principle on which it based its decision was that of 'community of interest of riparian States'[123] which the Court said had developed since the 1815 Final Act of the Congress of Vienna.[124] States had then agreed on the usefulness of rivers for navigation and on their internationalization, the benefits of which should be shared among not only riparians, but also non-riparians. The Court affirmed the principle in the following terms:

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[122] The régime of internationalization also applying to the River Oder arises out of Articles 332 to 337.

[123] At 27.

[124] Also in the context of navigation, in particular Articles 108 and 109.

This community of interest in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others.[125]

The Court concluded that the Treaty of Versailles adopted the same standpoint as the Final Act of Vienna and of the treaty law that applied and developed the principles of that Act.[126] Therefore, Article 331 must be interpreted also in the light of the principle of community of interest, thus clearly pointing to the conclusion that 'the internationalization of a waterway traversing or separating different States does not stop short at the last political frontier, but extends to the whole navigable river'.[127] Since the Court had already observed that the territorial limits of the administration of the International Commission coincided with those of the internationalisation mentioned in Article 331, the Court concluded that the jurisdiction of the Commission extended to the portions of the two tributaries of the Oder in Polish territory.

The value of the Court's reasoning is fully apparent in the context of navigation; but the implications drawn by writers from this decision in the construction of a theory of community of interest[128] seem sometimes overstretched. The actual wording of the judgment limits its scope to navigable rivers, referring to the 1919 Treaty of Versailles, the 1815 Final Act of the Congress of Vienna, and the 1921 Barcelona Convention and Statute on the Regime of Navigable Waterways of International Concern. The Court in reaching its conclusions referred only to treaty practice concerning navigation and, although it mentions the principles governing international fluvial law in general, it made no reference to state practice in relation to any other use. This is relevant, because navigation as such is a use that does not change the quantity of the water. Moreover, the concepts used were very vague and of a general nature, such as 'justice' and 'utility'.[129] As explained by Lammers,

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[125] At 27.

[126] At 29.

[127] *Id.*

[128] See *supra* s.2.2.4.

[129] Lammers (1984), 507.

For forms of use other than navigation, the legal notion of the community of interest could not, of course, find exactly the same application. As appears from the practice of States, each riparian State may make such other use of the water only within the limits of its own territory.

However, the reasoning of the Court has led authors, such as Lipper,[130] Lammers,[131] and McCaffrey,[132] to consider the concept of community of interest equally applicable to non-navigational uses.[133]

Lipper bases his conclusion on several factors: the language and reasoning of the decision; the fact that the 'requirements of justice and the considerations of utility' mentioned by the Court also apply to non-navigational uses; and last, but certainly not least, the fact that if state sovereignty is intact when foreign vessels enter into the territory of a State for the purposes of navigation, then '*a fortiori*, States would have the right to use the waters of such river within their own territory subject to "the perfect equality of all riparian States" so to do'.[134]

Although it is not clear from the decision, Lammers considers it probable that the Court viewed the legal concept of 'community of interest of riparian States' as the basis for legal solutions of problems not only of navigation 'to which the international character of an international watercourse would give rise', but also of problems related to other uses, even though it would be applied differently, since States make other uses within the boundaries of their own territory. Also the ideas of a 'perfect equality of all riparian States' and the 'exclusion of any preferential privilege of any one riparian State in relation to the others' could be applied to other uses.[135]

McCaffrey justifies the extended interpretation of the Court's reasoning by pointing out that the features of a river upon which the Court reached its findings also support the proposition that co-riparians have a 'common legal right' in relation to non-navigational uses. However, he recognises that the

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[130] Lipper (1967), 29.

[131] Lammers (1984), 507.

[132] McCaffrey (2001), 181-2.

[133] The ICJ applies the concept explicitly to non-navigational uses in the *Gabčíkovo-Nagymaros Project* case. See *infra* s.3.2.6.5

[134] Lipper (1967), 29.

[135] Lammers (1984), 507.

common legal right here is that of equitable utilisation, i.e., all riparians have a right, the application of which depends on certain facts and conditions, rather than the same rights of use.[136]

This case also provides an early example of the rôle of an international commission with limited powers and functions, such as the determination of its own jurisdiction and the preparation of projects of revision of existing international agreements and regulations.[137]

3.2.6.3 *The Diversion of Water from the Meuse* [138]

This case concerns a dispute regarding the construction of water works in the Meuse both in Belgium and in the Netherlands. The River Meuse rises in France, and near Givet it enters Belgium. After crossing this country, it then forms the frontier with the Netherlands before it enters its territory above Maastricht. A few kilometres below Maastricht, the Meuse again forms the frontier between the Netherlands and Belgium until it enters the Netherlands and flows into the North Sea.

Belgium and the Netherlands concluded a Treaty on 12 May 1863[139] where they agreed to 'settle permanently and definitively the régime governing diversions of water from the Meuse for the feeding of navigation canals and irrigation channels'. Later, in 1925, the two States signed another Treaty with a view to settling all differences regarding the construction and enlargement of new canals, but the First Chamber of the Dutch Parliament refused to ratify it. Despite this, both Belgium and the Netherlands began the construction of canals, barrages and locks.

Although both parties to the dispute had referred in their written and oral pleadings to the application of the general rules of international river law, the PCIJ decided that the controversy should be determined solely by interpreting and applying the 1863 Treaty. The Court found that neither party had violated its obligations under the Treaty. The Court recognised only that the rights

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[136] McCaffrey (2001), 182. See also *supra* s.2.3.4.

[137] Article 343 and 344.

[138] (Netherlands/Belgium), Judgment of 28 June 1937.

[139] UN (1963), 550.

under the Treaty should be protected. When commenting on the diversion of the water from different points of the Meuse other than the feeder referred to in the Treaty into canals situated in both countries, but not explicitly referred to in the Treaty, the Court said:

> As regards such canals, each of the two States is at liberty, in its own territory, to modify them, to enlarge them, to transform them, to fill them in and even to increase the volume of water in them from new sources, provided that the diversion of water at the treaty feeder and the volume of water to be discharged therefrom to maintain the normal level and flow in the Zuid-Willemsvaart is not affected.

The interest in this case lies in the fact that the Court, in relying solely on treaty law to decide the dispute, placed the agreement between the parties as the crucial element in limiting States' activities and ultimately in solving the dispute. Since the Court did not analyse whether the parties had violated general international fluvial law by constructing water works independently of the other co-riparian, it is not possible to draw conclusions as to whether States have a wide degree of freedom to do as they please in their own territory in the absence of voluntarily assumed treaty commitments.

3.2.6.4 *Lake Lanoux* Arbitration [140]

In 1957 the 'community of interests' approach was again reflected in another international decision.[141] The case concerned the diversion of the waters of the Lake Lanoux, situated entirely in French territory, to the Ariège River, which flows through France into the Atlantic Ocean, for the purpose of an hydro-electric project. The international dimension arose because, although the elevation between Lake Lanoux and the Ariège River could be used to generate hydro-electricity, the lake drained naturally into Spain via the rivers Carol and Font-Vivre and thence into the Mediterranean Sea.

The initial project approved by the French Government did not contemplate restitution of the water so diverted, but on complaint by Spain France offered to compensate Spain financially. The planned diversion amounted to 25 per cent of the flow of the river, the waters of which were relied upon in Spain for

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[140] (France *v.* Spain), Award of 16 November 1957.

[141] For an analysis of the case, see, e.g. Laylin and Bianchi (1959), Lammers (1984), 508-517; or McCaffrey (2001), 197-203.

irrigation. France then modified the project in order to provide full restitution in amount of water still on French territory via an underground tunnel to the international River Carol. Fearing that its rights and interests would be adversely affected by the French works, Spain claimed that the project would alter the natural conditions of the hydrographic basin of Lake Lanoux by the diversion of waters into the Ariège River. In addition, by making restitution of the waters to the River Carol physically dependent upon human will, this would lead to a *de facto* preponderance of one State over the other, rather than to the preservation of the equality of the parties States as provided for by the Treaty of Bayonne of 26 May 1866 and by the Additional Act of the same date. This Treaty delimited the frontiers between France and Spain from Andorra to the Mediterranean Sea, and its Additional Act provided 'Regulations applicable over the whole Frontier in either Country, and relative to the preservation of the Boundary Marks, to Cattle and Pasturage, to Properties divided by the Frontier, and the enjoyment of the Waters common to both'.[142] Spain also claimed that under the 1866 Treaty of Bayonne such works could only be undertaken with its consent.

The Tribunal had to decide whether France was breaching the provisions of the 1866 Treaty of Bayonne and the Additional Act by carrying out the works for the utilisation of the waters of Lake Lanoux without prior agreement between the two Governments.

Although the questions presented by the *compromis* relate solely to treaty law, the Tribunal found that in interpreting the Treaty and Additional Act it should also 'take into account the spirit that guided the framing of the Pyrenean Treaties as well as the rules of international common law'.[143] The Tribunal then set out a number of considerations concerning the rights and obligations of States in relation to international watercourses under general international law.

The Tribunal considered that the dispute could be reduced to two fundamental questions. The first question was whether the French scheme and proposals would constitute themselves a violation of the rights of Spain recognized by the provisions of the 1866 Treaty of Bayonne and the Additional Act. If not, the

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[142] 24 *ILR* (1957), 102.

[143] *Ibid.*, 121.

second question was whether the execution of the works constituted a violation of the provisions of the 1866 Treaty of Bayonne and the Additional Act because there had been no prior agreement between the two Governments or because the procedure laid down in Article XI of the Additional Act to the Treaty of Bayonne had not been observed. According to this Article, France had to give prior notice of works that could change the course or the volume of a watercourse flowing into Spain, so that the interests that could be involved on both sides would be safeguarded.

The Tribunal rejected the Spanish arguments, notably due to the fact that France had given a guarantee as to the amount of water to be restituted, thus in fact benefiting Spain with an increase in volume. In relying on France's commitment in this respect, the Tribunal considered that Spain could not claim to have insufficient guarantee, since 'there is a general and well-established principle of law according to which bad faith is not presumed.'[144] Therefore, the Tribunal concluded that the works planned by France were not in violation of the 1866 Treaty and Additional Act.

The Tribunal further held that France did not need the prior agreement of Spain to undertake the proposed works. In addition, France had complied with its obligations under Article XI of the Additional Act by notifying Spain of its planned works, including the diversion project, by consulting with Spain prior to initiating the project, and by subsequently altering its original plan, so that the waters would reach Spain from the same point on the frontier, with no diminution in volume, in order to accommodate Spanish interests.

In its reasoning, the Tribunal made several general points related to riparian procedural rights and duties of States in their co-operative relations. The Tribunal acknowledged that

> In fact, States are today perfectly conscious of the importance of the conflicting interests brought into play by the industrial use of international rivers, and of the necessity to reconcile them by mutual concessions. The only way to arrive at such compromises of interests is to conclude agreements on an increasingly comprehensive basis. International practice reflects the conviction that States ought to strive to conclude such agreements: there would thus appear to be an obligation to accept in

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[144] *Ibid.*, 126. For the principle of good faith, see *supra* s.2.3.9.

good faith all communications and contracts which could, by a broad comparison of interests and by reciprocal good will, provide States with the best conditions for concluding agreements.[145]

But, as the Tribunal explained,

In effect, in order to appreciate in its essence the necessity for prior agreement, one must envisage the hypothesis in which the interested States cannot reach agreement. In such case, it must be admitted that the State which is normally competent has lost its right to act alone as a result of the unconditional and arbitrary opposition of another State. This amounts to admitting a 'right of assent', a 'right of veto', which at the discretion of one State paralyses the exercise of the territorial jurisdiction of another.

That is why international practice prefers to resort to less extreme solutions by confining itself to obliging the States to seek, by preliminary negotiations, terms for an agreement, without subordinating the exercise of their competences to the conclusion of such an agreement.[146]

The Tribunal thus held that international law does not require prior consent by the notified State for the implementation of the proposed measures by the planning State. The Tribunal, on analysing state practice, concluded that 'the rule that States may utilize the hydraulic power of international watercourses only on condition of a *prior* agreement between the interested States cannot be established as a custom, even less as a general principle of law'.[147]

While considering the existence of the obligation to notify and to consult, the Tribunal seems to suggest that there is a principle of general application according to which 'A State wishing to do that which will affect an international watercourse cannot decide whether another State's interest will be affected; the other State is the sole judge of that and has the right to information on the proposals'.[148] The Tribunal then proceeded to characterise consultations and negotiations.[149]

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[145] *Ibid.*, 129-30.

[146] *Ibid.*, 128.

[147] *Ibid.*, 130.

[148] *Ibid.*, 119.

[149] See *infra* s.4.4 and s.4.5.

Though the Tribunal emphasized the importance of planning States taking into consideration other riparian States' interests in their international projects, it nevertheless seems clear from the award that the Tribunal did not believe riparian States to be under the obligation to undertake works designed to promote the interests of other States, whether upstream or downstream, nor to adopt 'forms of water utilization which would lead to *optimal* use of the waters considering *all* interests involved',[150] as the concept of 'community of interest' has be constructed to imply.[151]

This award has undoubtedly been the most insightful international decision into the implications of the obligation to co-operate to date.

3.2.6.5 *The Case concerning the Gabčíkovo-Nagymaros Project* [152]

The *Gabčíkovo-Nagymaros Project* case generated great expectations in the international legal community since it was regarded by many as an opportunity for the Court to develop the law relating to environmental protection.[153] As to the obligation to co-operate and international watercourses, the judgment seems to have clarified several issues. Paradoxically, the case continues on the docket of the Court due to the need for supervision of the application of, or indeed the failure to comply with, the very obligation to co-operate.

In 1977, Hungary and Czechoslovakia concluded a Treaty constituting an integrated joint project for a hydro-electric power development, a navigation and flood control investment programme, and the establishment of a régime for the project.[154] Part of the project consisted of the construction and operation of a major system of dams and barrages on the stretch of the River Danube between Bratislava and Budapest where the major part of the boundary between the two States is constituted by the main channel of the river. One of the series of locks was to be built at Gabčíkovo on a 31 km bypass canal in

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[150] Lammers (1984), 517.

[151] See *supra* s.2.2.4 and s.3.2.6.2.

[152] (Hungary/Slovakia), judgment of 25 September 1997, ICJ Reports (1997), 7.

[153] See, e.g. Kiss (1997), 72-3. For critical analyses of the judgment, see, e.g. Stec and Eckstein (1997), Lammers (1998), Sohnle (1998), and McCaffrey (2001), 186-197.

[154] The 1977 Treaty concerning the Construction and Operation of the Gabčíkovo-Nagymaros System of Locks, concluded in Budapest, on 16 September 1977.

Czechoslovak territory, and the second at Nagymaros in Hungary. The Treaty also provided for the construction of a dam in Dunakiliti by Hungary, so that the bypass canal could be filled, and the hydro-electric power plant and ship locks at Gabčíkovo operated. Works on the project started in 1978. But in 1983, on Hungary's initiative, the States agreed by two Protocols signed on 10 October to slow down the work on the project and postpone putting the power plants into operation. On 6 February 1989 the Parties agreed a further Protocol to accelerate the project.

Nonetheless, on 27 October 1989, due to intense domestic political pressure, the Hungarian Government suspended the works while awaiting the results from various studies. Subsequently, Hungary decided to abandon the works at Nagymaros and Dunakiliti, alleging economic and environmental reasons, notably that it entailed grave risks to the Hungarian environment and the water supply of Budapest. Despite an immediate protest by Czechoslovakia, and continuous negotiations during this period, the Parties failed to reach an agreement.

Having already carried out a substantial part of the works, Czechoslovakia then considered some alternatives to the original project. In 1991, the Czechoslovak Government started working on an alternative solution, known as 'Variant C', which included the unilateral diversion of the flow of the Danube on to its territory (80% to 90%), the construction of an overflow dam at Čunovo, and a levee linking the dam to a bypass canal and additional works. In response, Hungary protested and argued that its access to the water of the River Danube would be affected adversely by the operation of the works envisaged under this scheme. Although discussions had continued until then, Hungary terminated the 1977 Treaty with effect from 25 May 1992. On 15 October 1992, Czechoslovakia began the work to allow the closing of the Danube, and from 23 October 1992 proceeded to dam the river.

On 7 April 1993, after unsuccessful mediation efforts by the European Commission, Hungary and Slovakia – which along with the Czech Republic had become a successor State following the break-up of Czechoslovakia – concluded a Special Agreement[155] to submit to the ICJ certain issues arising out of

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[155] Entered into force on 28 June 1993. 32 *ILM* (1993), 1293.

differences regarding the implementation and the termination of the 1977 Treaty on the construction and operation of the Gabčíkovo-Nagymaros barrage system. On 2 July 1993, Hungary and Slovakia jointly submitted the dispute to the ICJ.

In its Original Application, Hungary focused, *inter alia*, on the breach by Czechoslovakia – since 1993, by Slovakia – of several aspects of the obligation to co-operate. Hungary claimed that Slovakia had failed to negotiate in good faith and thus to prevent the dispute, to notify in good time its plans to engage in activities that could cause significant transboundary adverse effects, and subsequently to enter into consultations in good faith.[156]

In its Judgment of 25 September 1997, the Court found that both Hungary and Slovakia had breached their international legal obligations: Hungary by abandoning its works and purporting to terminate the 1977 Treaty, and Slovakia by having unilaterally put Variant C into operation. The Court held that the States must negotiate in good faith while taking into consideration the factual situation that developed since 1989 and find an agreed solution in order to ensure the achievement of the objectives of the 1977 Treaty, which it declared was still in force. The Court further held that unless the two States otherwise agreed, a joint operational régime must be established in accordance with the 1977 Treaty. Since, according to the Treaty, the main structures of the System of Locks are the joint property of the parties, their operation must take the form of a co-ordinated single unit, and thus the benefits of the project must be equally shared (para. 144). It followed that decisions on the implementation of the project were in fact to be made by the parties themselves (paras. 134-7). The Court underlined that in future negotiations the States should take into account as a key issue the project's impact upon, and its implications for, the environment, and should thus evaluate its risks on the basis of current international standards (para. 140).

In addition to contributing in this way to environmental law,[157] the ICJ makes in its reasoning and in the operative part of its judgment several pronouncements relating to the obligation to co-operate.

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[156] Original Application of 22 October 1992, paras.27, 29 and 30, superseded by the Special Agreement.

[157] Nevertheless, the ICJ was criticised for having not taken the opportunity to provide more detailed guidance on issues such as the relationship between the right to equitable and

While reflecting on the importance of the Danube to the development of the riparian States, the Court justifies the need for co-operation, notably for the production of hydro-electricity:

17. The Danube has always played a vital part in the commercial and economic development of its riparian States, and has underlined and reinforced their interdependence, making international co-operation essential. Improvements to the navigation channel have enabled the Danube, now linked by canal to the Main and thence to the Rhine, to become an important navigational artery connecting the North Sea to the Black Sea. In the stretch of river to which the case relates, flood protection measures have been constructed over the centuries, farming and forestry practised, and, more recently, there has been an increase in population and industrial activity in the area. The cumulative effects on the river and on the environment of various human activities over the years have not all been favourable, particularly for the water régime.

Only by international co-operation could action be taken to alleviate these problems. Water management projects along the Danube have frequently sought to combine navigational improvements and flood protection with the production of electricity through hydroelectric power plants. The potential of the Danube for the production of hydroelectric power has been extensively exploited by some riparian States. The history of attempts to harness the potential of the particular stretch of the river at issue in these proceedings extends over a 25-year period culminating in the signature of the 1977 Treaty.

After citing the PCIJ's decision on the *River Oder* case, the ICJ explicitly applied for the first time the concept of 'community of interest' to the non-navigational uses of international watercourses. The Court considered the principle 'strengthened' by modern developments in international law, 'as evidenced' by the adoption of the 1997 UN Watercourses Convention (para. 85). From its specific application to the case before it, it is clear that a riparian State may not unilaterally assume control of a shared resource, as Slovakia had done with the diversion of the river, 'thereby depriving Hungary of its right to an equitable and reasonable share of the natural resources of the Danube.' The Court seems to recall the primacy of the right to an equitable and reasonable utilisation of the river, which it seems to construct as the 'common legal right' referred to in

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reasonable utilization and the obligation to prevent significant environmental harm. See, e.g. Sands (2003), 477.

the *River Oder* case, as suggested by McCaffrey.[158] The Court, however, has shed no further light on the content of the concept nor its legal implications.

In addition, the adoption of the 1997 UN Watercourses Convention was the only evidence referred to by the Court, and this on its own seems rather limited. First, because obligations sometimes credited to the concept of 'community of interest', such as integrated and joint management of the river basin and the establishment of joint institutions,[159] are not required by the Convention.[160] Secondly, because the 1997 UN Watercourses Convention had been adopted by the UNGA only four months prior to the judgment, had been signed by three States only, and of the three States voting against the Convention two were key regional riparian States.[161] Moreover, after the heated debate that the Convention generated in the Sixth Committee, its entering into force was not to be realistically expected in the near future. One may therefore deduce that the Court gave considerable weight to the long process of elaboration of the draft Convention by the ILC, especially bearing in mind the fact that some of the judges were former members of the ILC.[162]

Nevertheless, this pronouncement is at least an indication that the ICJ considers the 1997 UN Watercourses Convention as an 'authoritative instrument in the field'.[163] Consequently, and as the Court seeks to be consistent and build on its own jurisprudence,[164] one may expect the Court to adopt a similar view in future cases.

Still, it is not surprising that the Court has been criticised for not having made a thorough examination of state practice or *opinio juris* to ascertain the law, rather taking a short-cut by invoking the 1997 UN Watercourses Convention as

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[158] McCaffrey (2001), 182.

[159] See *supra* s.2.2.4

[160] Even if these requirements are present in the 1977 Treaty régime now ordered by the Court to be re-established between the parties to the dispute. See para.141.

[161] China and Turkey. The third State voting against the Convention was Burundi.

[162] In particular, the President of the Court, Judge Schwebel, a former Special Rapporteur.

[163] McCaffrey (2001), 193.

[164] Higgins (1994), 203.

evidence of the development of modern international law, that is, a 'reflection of evolving customary law'.[165]

The issue here is not so much whether the Convention is evidence of the development of international law *per se*, but rather whether the ICJ had developed the law. In other words, the question is one of the limits of the Court's judicial function. Judge Higgins, in her Hague Academy lectures, formulates the question: 'should [the Court] merely say as much as it has to say to decide the issue before it, or should it consciously contribute to the development of norms by offering views on a wider and less restrictive basis?'[166]

Strictly speaking, the rôle of the ICJ – as indeed of other international courts and tribunals – is, on the one hand, to settle disputes, the judgments of which are only binding upon the parties before it in accordance with Article 59 of the Statute of the Court, and on the other hand, to provide specific advisory opinions to certain UN bodies.[167] The ICJ itself has recognised this limitation in its powers. In the *South West Africa* cases, the Court asserted:

> As is implied by the opening phrase of Article 38, paragraph 1, of its Statute, the Court is not a legislative body. Its duty is to apply the law as it finds it, not to make it.
>
> It is always open to parties to a dispute, if they wish the Court to give a decision on a basis of *ex aequo et bono*, and are so agreed, to invoke the power which, in those circumstances, paragraph 2 of this same Article 38 confers on the Court to give a decision on that basis, not-withstanding the provisions of paragraph 1. Failing that, the duty of the Court is plain.[168]

But the Court does not simply apply existing rules to facts. It considers the circumstances to which rules are meant to be applied, it elaborates on the content of norms, and it expands upon uncertain issues, thus inevitably contributing to the development of international law.[169]

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[165] Benvenisti (2002), 201. See also Boyle (1997), where Boyle argues that the Court poured 'new law in old bottles'.

[166] Higgins (1994), 204.

[167] Article 65 of the Statute of the ICJ.

[168] (Ethiopia v. South Africa; Liberia v. South Africa), ICJ Reports (1966) 6, 48, paras.89-90.

[169] Higgins (1994), 202.

Although decisions are deemed a subsidiary source of international law, according to Article 38(1)(c) of the Statute of the Court, in practice the reality is quite different: judgments and opinions of the Court are widely accepted and 'treated as authoritative pronouncements upon the current state of international law',[170] even if occasionally based on debatable grounds.[171] Their decisions inevitably have an impact in future cases dealing with the same legal issues, and are likely to produce consistent future practice.[172]

Giving the example of the decision in the present case, Benvenisti argues that the ICJ has been granted by the international legal system 'the power – and duty – to offer legislative, Pareto-superior remedies' when multinational negotiations, such as those leading to the adoption of the 1997 UN Watercourses Convention, fail to reach an efficient result or never take place due to conflicting interests.[173] The ICJ, thus, has 'the power to create new law under the pretext of "finding" existing customary international law.' In other words, States accept the authority of the Court to formulate custom as the sole institution able to develop the law and act in their best interests and those of the international community as a whole.[174]

In the *Gabčíkovo-Nagymaros Project* decision, the ICJ concluded that both parties had carried out wrongful acts and ordered them to fulfil their obligation of reparation through the resumption of co-operation in the utilisation of the shared water resources of the Danube, and the implementation of the multi-purpose project in an equitable and reasonable manner, thus re-establishing a 'co-operative administration of what remains of the Project' (para. 150).

For the re-establishment of the joint régime, the Court cited Article 5(2) of the 1997 UN Watercourses Convention.[175] This provides for the obligation of

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[170] *Id.* Their 'persuasive force' depends on several factors, such as the quality of its reasoning or the terms of the *compromis*. See commentary to Principle 10 of the 2000 ILA London Principles of CIL, 19.

[171] Benvenisti (2002), 212.

[172] *Id.*

[173] *Ibid.*, 203.

[174] *Id.* and 212. Benvenisti (2002), 204ff. also argues that the legislative function of the ICJ is itself based in customary international law.

[175] See also Judge Weeramantry dissenting opinion in the *Kasikili/Sedudu Island* case, ICJ Reports (1999), 1045, where he affirmed the need to set up a joint international régime between

'participation' by a State in the use, development and protection of an international watercourse in an equitable and reasonable manner, a new concept put forward by the ILC, linking explicitly the right of a State to utilise the watercourse to the duty to co-operate in its protection and development. But beyond ordering the parties to negotiate, the Court did not elaborate on the obligation to co-operate. The Court recalled in this context what it had previously said in the *North Sea Continental Shelf* cases as to how negotiations should be carried out.[176] However, it asserted that it was 'not for the Court to determine what shall be the final result of these negotiations to be conducted by the Parties. It is for the Parties themselves to find an agreed solution that takes account of the objectives of the Treaty, which must be pursued in a joint and integrated way, as well as the norms of international environmental law and the principles of the law of international watercourses' (para. 141).

A few reasons may be put forward to explain this decision. The Court has several times taken occasion to convey its preference for not stipulating in detail the future conduct of the parties in order to allow them the freedom necessary to proceed with negotiations. In ordering the parties to co-operate, the Court evidently intended to send the parties back to the negotiating table. This may be explained by the fact that the nature of the problem of shared natural resources in itself requires the parties to continue co-operating in a variety of different ways, especially since in the wider frame of their relations wider issues would need solving. The Court also emphasises that the substantive rules of international law need to be complied with. In this case the rule of equitable and reasonable utilisation had been breached, and in order for this violation not to recur, the Court recognised it to be necessary not only to assert the violation of the rules but for the parties themselves to prevent these violations in the future through co-operation. As with many boundary disputes, a totally prescriptive decision would not be the best solution, since the issues involved in the case are complex and may require further or indeed continuous co-operation.

This type of solution has many known advantages. The decision emphasized the essential points, and resolved many legal issues, thus removing obstacles

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Botswana and Namibia in order to safeguard the environmental interests of the Island, and where this question is discussed in some detail.

[176] See *supra* s.2.3.9, and *infra* s.4.4.

to the required co-operation. The judgment 'clearly seeks to shield international politics from the influence of domestic politics'.[177] As both parties have 'won', this could internally justify both the Government's recourse to the high cost of action brought before the ICJ and the resumption of the required negotiations close to election time.

A contrario, the decision may be criticised for not having gone far enough. The Court left the dispute unresolved by requiring the parties to return to the negotiating table – a course which had previously proved unsuccessful. In fact, on 3 September 1998, Slovakia filed a request for an additional judgment. In its request, Slovakia states that the Parties conducted a series of negotiations on the modalities for executing the Court's judgment and initialled a draft framework agreement, which was approved by the Government of Slovakia on 10 March 1998. Slovakia, however, contends that 'on 5 March 1998, Hungary postponed its approval and, upon the accession of its new Government following the May elections, it has proceeded to disavow the draft Framework Agreement and now further delays implementing the Judgment'. Hence, Slovakia seeks a determination of the modalities for executing the Court's judgment. Slovakia bases its request on the Special Agreement of 7 April 1993 (Article 5), whereby the parties jointly submitted their original dispute to the Court.

On 7 December 1998 Hungary filed a written statement of its position in response to Slovakia's request for an additional judgment. Although the Court has not yet acted upon these submissions, it has requested the parties to keep the Court informed of the progress of negotiations on the implementation of its ruling.

The obstacles to settlement seem indeed to arise mostly from domestic politics and institutions. Internal public pressure on both governments to take unilateral action originally led to the dispute. Although public support for settlement has been fragile, the decision of the Court ordering the parties to renegotiate the existing régime may now be invoked by both governments internally, notably against the opposition, to show that despite political pressures for unilateral action, the outcome would be the same and the State

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[177] Benvenisti (2002), 136.

would still be bound by its international obligations. The successful resolution of the dispute still depends on the governments' willingness and ability to prepare the public to accept the terms of a settlement which will inevitably involve significant concessions.

3.2.6.6 *Pulp Mills on the River Uruguay* [178]

A recent case, still before the ICJ, concerns the construction of two pulp mills on the banks of the River Uruguay near the Uruguayan town of Fray Bentos. The project is situated within 25 km from the Argentine town of Gualeguaychú, a popular tourist resort on the Argentine side of the River Uruguay. The project consists of two greenfield eucalyptus Kraft pulp mills using Elemental Chlorine Free (ECF) technology to produce air-dried pulp (ADP), which is the primary raw material for the production of paper and paper-related products. Contrary to the Totally Chlorine Free (TCF) bleaching process, the ECF technology results in the emission of dioxins through the use of chlorine dioxide. It is expected that the mills will produce a combined total of about 1.4 million tons of pulp per year. The project represents the largest foreign investment in the history of Uruguay and an important source for local employment. If completed, this would be the largest cellulose mill project in the world.

In May 2006, Argentina filed an application instituting proceedings against Uruguay concerning alleged violations by Uruguay of its obligations under the Statute of the River Uruguay, a bilateral treaty signed on 26 February 1975.

The purpose of the Statute is 'to establish the joint machinery necessary for the optimum and rational utilization of the River Uruguay' (Article 1), which is shared by the two States and partially constitutes their joint boundary. The Statute governs, *inter alia,* 'the conservation, utilization and exploitation of natural resources and the prevention of pollution' and establishes an Administrative Commission of the River Uruguay (CARU), which has functions of regulation and co-ordination.

In its application, Argentina claims that Uruguay authorized unilaterally the construction of the two pulp mills on the River Uruguay, despite Argentina's

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[178] (Argentina *v.* Uruguay). See generally the ICJ's website at http://www.icj-cij.org and Bekker (2006).

repeated protests both to the Government of Uruguay and to CARU, without complying with the procedure of prior notification and consultation established in the Statute.

Argentina also claims that the construction and subsequent commissioning of the two pulp mills will have adverse environmental and other effects upon it and its catchment area. These include 'significant risks of pollution of the river, deterioration of biodiversity, harmful effects on health and damage to fisheries resources', and 'extremely serious consequences for tourism and other economic interests'. In fact, the main point of contention between the two States is whether the pulp mills would comply with existing international norms concerning effluent emissions. Uruguay asserts that the existing environmental studies into the impact of the mills in terms of atmospheric emissions and liquid effluents reveal that this will not be such as to trigger the notification requirements within CARU. Argentina has rejected these EIA studies claiming that they are biased, excessively optimistic, and incomplete, and has asked for additional information and for a more comprehensive and independent international study regarding the potential environmental and other effects of the two mills. In addition, it asks for full reparation for the injury caused by Uruguay's breach of its obligations under the Statute, notably of notification and consultation.

Argentina states that, following the change of government in Uruguay in March 2005, the two States set up a bilateral High-Level Technical Group in order to resolve the dispute between them. However, neither these meetings nor the presidents of the two countries have been able to reach a settlement.

Argentina also requested the indication of provisional measures requiring Uruguay, *inter alia*, to suspend the authorizations for the construction of the mills and the actual building work on them pending a final decision by the Court. It also asked for an order requiring Uruguay to co-operate in good faith with Argentina in order to ensure the optimum and rational utilisation of the River Uruguay, and to refrain from any other action which might aggravate or extend the dispute or render its settlement more difficult.

On 29 November 2006, Uruguay submitted its own request to the Court for the indication of provisional measures. It contended that organized groups of

Argentine citizens had blockaded a vital international bridge over the Uruguay River and that such an action was causing enormous economic damage to Uruguay, without Argentina having taken any steps to put an end to the blockade. Uruguay asked the ICJ to order Argentina to take all reasonable and appropriate steps to prevent or end the interruption of transit between the two countries, and to abstain from taking measures that might aggravate the dispute or prejudice the rights of Uruguay in dispute before the ICJ.

On 13 July 2006 and on 23 January 2007, the Court gave its decisions. In both Orders, the Court found that the circumstances, as they then presented themselves to it, were not such as to require the indication of provisional measures. On the first Order, the Court observed that there is 'nothing in the record to demonstrate that the very decision by Uruguay to authorize the construction of the mills poses an imminent threat of irreparable damage to the aquatic environment of the River Uruguay or to the economic and social interests of the riparian inhabitants on the Argentine side of the river' (para. 73). Yet the Court made clear that, by proceeding with the work, Uruguay 'necessarily bears all risks relating to any finding on the merits that the Court might later make' (para. 78) and that the construction of the mills at the current site cannot be deemed to create a *fait accompli*.

The ICJ emphasized 'the importance of the need to ensure environmental protection of shared natural resources while allowing for sustainable economic development' (para. 80), and recognised that 'the detailed provisions of the 1975 Statute, which require co-operation between the parties for activities affecting the river environment, created a comprehensive and progressive régime'. It also noted that the establishment of the Administrative Commission of the River Uruguay, 'a joint mechanism with regulatory, executive, administrative, technical and conciliatory functions, entrusted with the proper implementation of the rules contained in the 1975 Statute governing the management of the shared river resource' is 'of significance'. Furthermore, the Court stated that the procedural mechanism put in place under the 1975 Statute constituted 'a very important part' of that treaty régime (para. 81).

In both Orders, the Court affirms that the parties are required 'to fulfil their obligations under international law', and in particular 'to implement in good faith the consultation and co-operation procedures provided for by the 1975

Statute, with CARU constituting the envisaged forum in this regard'.[179] In addition, the Court encourages both Parties 'to refrain from any actions which might render more difficult the resolution' of the dispute.

Having decided not to indicate provisional measures in both requests, the Court will still have to consider the admissibility of the application and the merits of the case. As with most of the cases examined, the dispute is based on an existing treaty régime. Since this régime was originally agreed by the parties, and in line with its previous decision on the *Gabčíkovo-Nagymaros Project* case, the ICJ stresses the importance of the States' compliance with the treaty procedural requirements to co-operate and to consult within the framework of the bilateral commission. When deciding on the merits, the ICJ will be given another opportunity to contribute to the clarification of the obligations to notify, to consult and to co-operate *lato sensu*.

3.2.6.7 Concluding Remarks on International Decisions

To invoke the need for, or the practice of, co-operation seems to attract acceptance in political fora when this is done in statements of general principle. But when specific forms or means of giving effect to this co-operation are proposed with some precision, the risk of losing political support increases.[180] This divergence is well illustrated with the *Gabčíkovo-Nagymaros Project* case. The implementation of the order of the ICJ for the parties to co-operate was impaired by the lack of political support in government elections. All agreed that co-operation was needed. But the prospects for this dwindle when relations are marked by distrust and suspicion. This is especially so because among sovereign States past experience supports on several occasions the suspicion that a system of interdependent works or water control will be abused.

Obviously, where disputes are brought before an international court or tribunal, co-operation – even where it has been tried – has failed. It is thus interesting to observe that most recent decisions point towards a reiteration by courts and tribunals of the obligation that States must co-operate with each

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[179] Para.82 and para.53, respectively.

[180] See Pinto (1986), 134, in the context of economic development through co-operation.

other on shared natural resources.[181] This seems to send a message to the States involved in similar circumstances that there are issues that the parties to a controversy should resolve among themselves, and that they should overcome the political stalemate by the resumption of negotiations.

Equally, States involved in cases brought before international courts or tribunals have invoked as part of their litigation strategy arguments based on the breach of the obligation to co-operate or of one of its applications.[182] This indicates that States now expect the courts to continue to demand compliance not only with substantive rules but also with procedural ones.

Moreover, disputes show a trend towards focusing on issues of sustainable use and environmental protection, as well as on limits imposed on the use of shared natural resources, rather than on control of the resources or concessions for its exploration.[183] This also means that the legal duties involved will place greater weight on continuing procedural obligations.

3.2.7 Some Theoretical Perspectives on Co-operation

The problem of sharing international water resources is one of the situations which may be represented in the 'iterated prisoner's dilemma', where the game is played repeatedly. Thus, contrary to the usual result of individual players defecting in a one-time game,[184] the incentive to defect is overcome by the threat of punishment, which in turn leads to a potential co-operative outcome. Axelrod, in his theory on the evolution of co-operation,[185] concluded that '[i]n a vast range of situations mutual co-operation can be better for *both* sides than mutual defection. The key to doing well lies not in overcoming others, but in eliciting their co-operation.'[186] As there is no central authority capable of enforcing co-operation between States, he speaks of two requisites for its

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[181] See also the cases related to the Law of the Sea, *infra* s.6.2.3.2.

[182] See, in particular, the *Mox Plant* Case, *infra* s.6.2.3.2.

[183] Schrijver (1997) 164-8, and Higgins (1999), 111.

[184] In fact, in game theory's prisoner's dilemma, players chose different actions in order to maximise their returns. But the main feature is that it provides a formal modelling approach to a situation in which decision-makers interact with others.

[185] Axelrod (1990). See also Axelrod and Hamilton (1981), and Axelrod and Dion (1988).

[186] Axelrod (1990), 190.

development: first, the existence of *reciprocity*, where those involved are able and willing to work together; and secondly, the *long-term* perspective, where the parties concerned interact and perceive this regular action as beneficial and a long-term need.[187]

In the case of successive States, the upper riparian is probably less aware of the need and value of co-operation than the lower riparian.[188] Viable co-operation may only exist when States recognize reciprocal advantages and are able and willing to offer and accept these. But it is with the regulation of the rights and obligations of States in treaties that this co-operation is most effective in practice, even if treaties do not cover the entire co-operative relationship between them.[189] As relationships regulated by treaties vary from bilateral to regional or global, there is the risk of an erosion of the perception of interdependence of States, since the element of reciprocity may be diluted by the number of States involved and by the number of issues under discussion.[190]

Moreover, as in the prisoner's dilemma, since States can enjoy the benefits of environmental protection by other States without incurring costs, they do not have an incentive to protect the environment.[191] However, if every State relies on others to protect it, then environmental degradation continues and the outcome is worse for all States than if they shared the responsibility and cost of environmental protection.[192] The principle of co-operation between States appears the only effective means to resolving this problem.[193]

This dilemma and the need for co-operation have been recognised in particular in the environmental field, thus leading to a proliferation of multilateral treaties. These, in turn, have led to further interdependencies and closer integration between nations.[194] This further enhances the imperative of co-operation, as non-cooperation in one area can affect the position defended by a State in another. Moreover, failure to participate in such co-operative

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[187] *Ibid.*, 173.

[188] On the continuing tension between upstream and downstream States, see *supra* s.1.4.2.

[189] Pinto (1986), 135-6.

[190] Axelrod (1990).

[191] Except for the obvious incentive of reducing friction with their co-riparians.

[192] Perrez (1998), 552-554.

[193] *Ibid.*, 581.

[194] See Charney (1993), 529.

régimes diminishes the ability of States to influence the very establishment of international régimes and to safeguard their interests within those régimes.[195]

The principle of co-operation involves the recognition that independent action is not sufficient to achieve common goals and requires a commitment by States to take into account the interests of other States, to share authority and to sacrifice, to a certain extent, unilateral action in favour of co-ordinated activity.[196] This may only be invoked where States need or seek to achieve common or related goals and are thus fairly interdependent.[197] In the context of international water resources a common goal is, for example, sustainable development.[198]

Based on the iterated prisoner's dilemma and on the theory of collective action applied to transboundary resources,[199] – co-operation as a long-term effort founded on collective action for an indefinite period of time – Benvenisti suggests that long-term co-operation is the key to sustainable and optimal resource management. However, the management of natural resources is particularly susceptible to domestic pressure from groups to withdraw from their international treaty obligations,[200] or indeed not to enter into them in the first place.

As national legal rules and institutional arrangements concerning the uses of natural resources shape each State's ability to commit itself to international obligations and to comply with them,[201] 'the stricter the rules precluding unilateral exit from treaty obligations, the stronger a state party's commitment to long-term co-operation, and the lower the uncertainty as to possible future breaches'.[202]

Increasing support for the integrated management approach, including by the ICJ on the *Gabčíkovo-Nagymaros Project* case, may influence the development

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[195] See Chayes (1995), 75.

[196] Perrez (2000), 521, and Stoll (1996), 47.

[197] Stoll (1996), 40.

[198] *Ibid.*, 92. See *supra* s.3.2.1.

[199] Benvenisti (2002), 31-42.

[200] *Ibid.*, 134 and 185.

[201] *Ibid.*, 132.

[202] *Ibid.*, 135 and 185.

of the rules on co-operation between States, as it could lead to a shift from a *Lotus*-based approach, where States are free to act and any limitation to their sovereignty has to be proven, to the contrary approach, where it is the State seeking to avoid co-operation and responsibility that bears the burden of proof.[203]

Like several other rules of international environmental law, the content of the obligation to co-operate is dynamic and still evolving. Thus the assertion of its legal status may generate some controversy.[204] But its significance as a principle in guiding policy and as a negotiating tool in the construction of international environmental régimes is indisputable.[205]

The weight of opinion amongst modern writers supports the doctrine that, in international environmental law, co-operation is a general legal principle.[206] However, only a few elaborate on its content and legal status.[207] As a treaty obligation, due to being general and rather abstract, its interpretation for the purposes of implementation also raises difficulties.

The status of the obligation to co-operate as general customary international law may also be determined in relation to international water resources through the analysis of the legal status of its different applications.[208]

In the context of common offshore oil and gas deposits, Ong asserts that there is an extensive body of authority in support of a general obligation to co-operate in the exploitation of common or shared resources. Judge Jessup's separate opinion in the *North Sea Continental Shelf Cases*[209] emphasises this,

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[203] Benvenisti (2002), 178. For the *Lotus* principles, see *supra* s.2.2.1.

[204] As demonstrated by the discussions in the ILC. See *supra* s.3.2.3.2.

[205] See Dupuy (1991).

[206] See, e.g. Kiss (1997), 64; Kiss and Shelton (2000), 259-261; and Sands (2003), 249-251. See also Dupuy (2000), 22, who argues that the general principle of co-operation in international law is of a general customary nature. This is demonstrated by the considerable number of treaties and other legal instruments aimed specifically at establishing and reinforcing co-operation, thus implementing the obligation in all sectors and at all levels of international life, thus reflecting a 'truly universal *opinio juris*'.

[207] See e.g. Hohmann (1994), 197, who argues that the general obligation to co-operate has been 'firmly established' and has become so indispensable to international environmental law that it should be considered, together with the obligation not to cause significant environmental harm, a *jus cogens* norm. *Accord* Brunnée (1989), 806. See *supra* s.2.3.5.

[208] See *infra* s.4.3.1.5.

[209] ICJ Reports (1969) 3, 82.

in particular where he states that 'the principle of international co-operation in the exploitation of a natural resource is well established in other international practice', this being the practice relating to international river basins.[210]

Based on the premises of the theory of co-operative sovereignty,[211] Perrez argues that the existence of a general duty to co-operate with regard to environmental issues is 'firmly established'[212] in international law today as treaty law, customary international law, and as a general principle of law. This author adds that 'even without prescribing concrete behaviour, the general duty to co-operate is able to set a general framework for State behaviour'.[213] Yet in the context of international water resources this obligation to co-operate has not always been recognised by international law.[214]

It is evident that 'there are different forms, intensities and stages of co-operation'[215] and consequently the concrete obligations to undertake specific co-operative activities vary significantly in international law.[216] One theory distinguishes between different levels of concrete co-operation 'according to their impact on the States' freedom of manoeuvre, and the States' readiness to agree on such co-operation.'[217] To illustrate the usefulness of such a distinction, an example relevant to international watercourses is put forward: it is more difficult for States to agree on the creation of an international institution or régime and participation in the adoption and implementation of common measures than to accept an obligation to undertake joint scientific research.

In the context of international watercourses, the existence of concrete obligations to co-operate that have emerged over time 'while still leaving a certain degree of autonomy to the States, nevertheless do have more than a minimal impact on the States' freedom and independence'.[218] However, they are

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[210] Ong (1999), 796 and 798.

[211] See *supra* s.2.3.2.

[212] See Perrez (2000), 259 and 283.

[213] *Ibid.*, 261. *Accord* Sohnle (2002), 327.

[214] For the evolution of water rights, see *supra* s.2.2.

[215] Perrez (2000), 260.

[216] See *infra* Ch.5.

[217] Perrez (2000), 304.

[218] *Ibid.*, 317.

still short of requiring positive joint management.[219] In other words, concrete obligations 'are still short of requiring the States to join a treaty régime or to establish an organization or a common institution with ample competences to deal with all the issues arising out of the common use of the international watercourse.'[220] None of the existing concrete obligations to co-operate 'require States to give up all their autonomy and freedom'. Hence, the theory of co-operative sovereignty does not go as far as the theory of common management, which requires positive joint management.

As to the legal nature of the general obligation of co-operation, Sohnle calls it a 'perfect legal rule',[221] the degree of constraint of which depends on the text containing it, on the degree of detail of the formulation of the obligation, and on the existence or not of treaty and institutional arrangements.

3.3 Co-operation in Related Areas

For the purposes of our study, it is useful to examine briefly the presence of the principle of co-operation in other areas related to natural resources. Although the law of international watercourses has its own line of evolution, it is influenced by, and absorbs, some of the principles from other areas such as the Law of the Sea, and biodiversity.

3.3.1 Note on Groundwaters

Groundwaters represent about 97% of the world's freshwater resources. In many areas groundwater is the largest source of public drinking water and the most sensitive freshwater resource.

Groundwaters have not received as much attention in the past as surface water. Although there are a few international instruments and studies from

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[219] *Id.* See also *infra* s.5.2.

[220] *Id.*

[221] Sohnle (2002), 327.

scholarly associations dealing specifically with groundwaters,[222] the 1997 UN Watercourses Convention generally applies also in relation to international groundwaters, except for confined transboundary aquifers.[223] But the need to address the specific questions of this water resource has been recognised.[224] Currently, under the topic 'Shared natural resources', the ILC is preparing a set of 19 draft articles on the law of transboundary aquifers.[225]

Article 7 of the 2006 Draft Articles provides for a general obligation to co-operate in similar terms to those of Article 8 of the 1997 UN Watercourses Convention, but it already includes 'sustainable development' as one of its bases. In addition, although not yet using mandatory terms, paragraph 2 provides that aquifer States 'should establish joint mechanisms of co-operation'. The draft articles include several specific obligations of co-operation, some similar to those provided for in the 1997 UN Watercourses Convention, such as the obligation to exchange data and information regularly, but also others, such as monitoring or the promotion of scientific, educational, and technical co-operation with developing States.

3.3.2 Co-operation and the Law of the Sea

The 1982 UN Convention on the Law of the Sea (UNCLOS)[226] is the result of intense negotiations during the 1970s. A reflection of its time, the Third Conference on the Law of the Sea worked on a new legal régime which had the idea – then fashionable – of 'the common heritage of mankind' among its foundations. It is not surprising then that the obligation to co-operate is contained in this multilateral treaty in a variety of contexts.[227] However, as with

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[222] E.g. the Bellagio Draft Treaty, or the 1986 ILA Seoul Rules.

[223] See the 1997 ILC Resolution on Confined Transboundary Groundwater.

[224] See Ch.VIII, and particularly Article 42, of the 2004 ILA Berlin Rules.

[225] See the 2006 ILC Draft Articles on the Law of Transboundary Aquifers, and commentary. See also e.g. Eckstein (2007).

[226] Concluded in Montego Bay, Jamaica, on 10 December 1982, and entered into force on 16 November 1994. There are now 155 Parties to the Convention.

[227] This is explained by the ICJ in the *Fisheries Jurisdiction* Case, ICJ Reports (1994), 23-4, para.53, in the following manner:

'The very fact of convening the third Conference on the Law of the Sea evidences a manifest desire on the part of all States to proceed to the codification of that law on a universal basis, including the question of fisheries and conservation of the living resources of the sea. Such a general desire is understandable since the rules of international maritime law have been the

the law of international watercourses, the concept of co-operation does not always form a legally binding obligation with a clear legal content and practical implications.[228]

The obligation of co-operation appears expressly or implicitly throughout the 1982 UNCLOS. The drafting terms used leave no doubt of the intention of the negotiators of the Convention to give legally binding force to the obligation.[229] The 1982 UNCLOS includes both examples of the obligation to co-operate drafted in general terms with little hint as to scope or frequency, and occasions where the obligation is thoroughly elaborated. In the first case, the wording often leaves room for argument as to the specific conduct required to comply with the legal obligation. This manifestly may lead to allegations of breach of the obligation.[230]

The duty to co-operate appears in relation to different areas, namely to marine areas within national jurisdiction, to the high seas,[231] to landlocked and geographically disadvantaged States,[232] to the sea-bed beyond national jurisdiction,[233] and in relation to matters such as the protection and preservation of the marine environment, marine scientific research,[234] the

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product of mutual accommodation, reasonableness and co-operation. So it was in the past, and so it necessarily is today. In the circumstances, the Court, as a court of law, cannot render judgment *sub specie legis ferendae*, or anticipate the law before the legislator has laid it down.'

[228] On the obligation to co-operate and the 1982 UNCLOS, see Pinto (1986).

[229] The obligation is often expressed in mandatory terms, by use of the verb *shall*.

[230] See generally *infra* Ch.6.

[231] For example, in the repression of piracy (Article 100). See, in particular, Article 118 on the general obligation of States to co-operate with each other in the conservation and management of living resources of the high seas. This article also specifies some of the forms that this co-operation may take for States whose nationals exploit identical or different living resources in the same area, such as the obligation to negotiate, and the obligation to establish regional or subregional organisations for that purpose. In addition, the 1995 UN Agreement Relating to the Conservation and Management of Straddling and Highly Migratory Fish Stocks specifies in even greater detail the forms and mechanisms for international co-operation.

[232] See, e.g. Articles 129 and 130.

[233] In relation to the Area, see, for example, Article 143(3), which specifies some forms of co-operation regarding marine scientific research, and Article 144(2), which requires co-operation among States and between them and the International Seabed Authority in relation to transfer of technology and scientific knowledge relating to activities in the Area. The Convention provides here some examples of how co-operation may be implemented.

[234] Section 2 of Part XIII of the 1982 UNCLOS deals exclusively with international co-operation regarding marine scientific research. Article 243 provides for co-operation between States and international organizations specifically through the conclusion of bilateral and multilateral agreements, and Article 244 requires co-operation to promote the flow of scientific data and information and the transfer of knowledge.

development and transfer of marine technology,[235] and to archaeological and historical objects found at sea.

The influence of the 1982 UNCLOS on the 1997 UN Watercourses Convention is apparent both in the substantive work of the ILC and in its drafting. In many instances a parallel may be drawn between the rules on the law of the sea and those on international watercourses. For example, in relation to the areas under national jurisdiction, Articles 64, 65 and 66(3)(b), (4) and (5), provide for an obligation of co-operation between coastal States and other States, directly or through international organisations, concerning the management and conservation of certain living resources within the exclusive economic zone, such as highly migratory species, marine mammals, and anadromous stocks. Article 64, for instance, as Article 8 of the 1997 UN Watercourses Convention, provides that co-operation aims at 'ensuring conservation and promoting the objective of optimum utilization' of the resource.

Similarly, the provisions regarding rights of land-locked States and of geographically disadvantaged States include an express obligation of co-operation between the coastal State and other States concerned (Articles 69(3) and 70(4)). This obligation arises when the coastal State has the capacity to harvest the entirety of the allowable catch of the living resources in its exclusive economic zone. Co-operation is specified as 'the establishment of equitable arrangements on a bilateral, subregional or regional basis to allow for participation of developing' land-locked States or geographically disadvantaged States of the same subregion or region in the exploitation of the living resources 'as may be appropriate in the circumstances and on terms satisfactory to all parties'. For the implementation of this provision, several factors specified in Articles 69(2) and 70(3) should be taken into account.

Also, in relation to activities in an area of the seabed beyond national jurisdiction which extends into the national jurisdiction of a coastal State, Article 142(2) provides that co-operation is required in the form of

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[235] Further to Article 144(2) referred to above, Section 2 of Part XIV of the 1982 UNCLOS deals with international co-operation regarding the development and transfer of marine technology. Articles 266(1) and 268(e) provide for a general obligation, which is specified in several other articles. See, in particular, Articles 269 and 270, which specify different forms of co-operation. These include the establishment of programmes of technical co-operation; the promotion of favourable conditions for the conclusion of agreements, contracts and other similar arrangements, under equitable and reasonable conditions; and the undertaking of projects and promotion of joint ventures and other forms of bilateral and multilateral co-operation.

consultations and a system of prior notification so that the rights and legitimate interests of the State concerned are taken into consideration. But here, when the activities may result in the exploitation of a mineral deposit, prior consent is required.

Part XII of the 1982 UNCLOS deals with the protection and preservation of the marine environment, and the obligation to co-operate appears often throughout its 11 sections. Article 194 stipulates the obligation of States to take, individually or jointly 'as appropriate', all measures necessary to prevent, reduce and control pollution of the marine environment from any source, and lists some of these measures in paragraph (3). In the same line, Article 23 of the 1997 UN Watercourses Convention provides that

> Watercourse States shall, individually and, where appropriate, in co-operation with other States, take all measures with respect to an international watercourse that are necessary to protect and preserve the marine environment, including estuaries, taking into account generally accepted international rules and standards.

Article 197 of UNCLOS provides for a general obligation of States to co-operate directly or through international organizations on a global or regional basis in the formulation and elaboration of international rules, standards and recommended procedures for the protection and preservation of the marine environment.[236] Like the 1997 UN Watercourses Convention, the 1982 UNCLOS expands on different forms of co-operation, notably for the purpose of preventing, mitigating, or eliminating the effects of pollution, but it goes even further. The 1982 Convention requires the notification of imminent or actual damage (Article 198), the joint development and promotion of contingency plans against pollution (Article 199), the provision of 'information necessary to prevent and control damage to the health and safety of persons and to the marine environment' (Article 242(2)), and the promotion of studies, the undertaking of programmes of scientific research and the support to the exchange of data and information on pollution of the marine environment (Article 200).

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[236] An example is the conclusion of the Framework Convention for the Protection of the Marine Environment of the Caspian Sea, signed in Tehran on 4 November 2003, between Iran, Azerbaijan, Kazakhstan and the Russian Federation. The Convention was negotiated under the auspices of UNEP and had financial support from the UN, the European Union and the World Bank. It aims to reverse ecological and environmental damage in the Caspian Sea area caused by industrial pollution, sewage and oil refinery leaks.

The content and application of the obligation to co-operate has also been dealt with in the context of Law of the Sea disputes. Of particular relevance are the *MOX Plant* Case and the *Southern Bluefin Tuna* Cases brought before the International Tribunal for the Law of the Sea (ITLOS). These are discussed in Chapter 6.

3.3.3 Biodiversity: an Overall Obligation of Co-operation

The concept of *biological diversity* is defined in Article 2 of the 1992 Convention on Biological Diversity (CBD) as 'the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.'[237] Thus, the objectives of the Convention are the conservation of biodiversity and the sustainable use of its components, both *in-situ* and *ex-situ* of ecosystems and natural habitats, the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies (Article 1).

Biodiversity aims to cover several areas. Thus, the 1992 CBD[238] – the result of four-year long negotiations – adopts an ecosystem approach and focuses not only on inland waters, but also on forests, agriculture, marine and costal areas, and dry and sub-humid lands. The CBD was signed in Rio de Janeiro on 5 June 1992 by 167 States and the European Community and entered into force on 29 December 1993. The number of Parties to the Convention, now 189 States and the European Community, leaves no doubt of its significance. On the basis of the CBD, the Conference of the Parties, the Secretariat and other bodies continue to work on the development and implementation of national policies and régimes.

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[237] The Convention also defines *sustainable use* as 'the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.' CBD Secretariat (2001).

[238] On the status and implementation of the Convention, see generally the Secretariat's website at http://www.biodiv.org.

Freshwater, along with atmospheric, marine, and land-based pollution, and the use of natural resources increasingly have transboundary effects. These result in the degradation of shared resources and threaten biodiversity. The 1992 CBD recognises the need for international co-operation to achieve its aims and provides in Article 5 for an obligation to co-operate in general terms. It reads as follows:

> Each Contracting Party shall, as far as possible and as appropriate, co-operate with other Contracting Parties, directly or, where appropriate, through competent international organizations, in respect of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biological diversity.

Though this is a general obligation, the expression *as far as possible and as appropriate* indicate that its implementation is left to the consideration of the States themselves. However, like most framework multilateral watercourse treaties and the 1982 UNCLOS, the Convention also lays down several concrete duties of co-operation. The list is long and detailed, but often includes the same proviso as the formulation of the general obligation.[239]

Of particular relevance is the obligation concerning impact assessment in Article 14(c), which provides the obligation to 'promote, on the basis of reciprocity, notification, exchange of information and consultation on activities under their jurisdiction or control which are likely to significantly affect adversely the biological diversity of other States or areas beyond the limits of national jurisdiction, by encouraging the conclusion of bilateral, regional or multilateral arrangements, as appropriate'.

The CBD includes other relevant obligations, such as the obligation to notify in the case of imminent or grave danger or damage and to initiate action to prevent or minimize such danger or damage (Article 14(d)); to promote national arrangements for emergency responses to activities or events, whether caused naturally or otherwise, which present a grave and imminent danger to biological diversity and encourage international co-operation to supplement such national efforts (Article 14(e)); to give access and to transfer technology

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[239] E.g. the obligation 'to co-operate, as appropriate, with other States and international organizations in developing educational and public awareness programmes' in Article 13(b).

(Article 16); and to exchange information (Article 17). Here, the CBD also specifies some of the types of information, such as exchange of results of technical, scientific and socio-economic research, as well as information on training and surveying programmes, specialized knowledge, indigenous and traditional knowledge as such. It also lays down a provision on technical and scientific co-operation to be promoted through international and national institutions in implementing the Convention, *inter alia*, through the development and implementation of national policies (Article 18). In addition, the CBD also provides in Article 18(3) for the establishment of a clearing-house mechanism to promote and facilitate technical and scientific co-operation.

Biodiversity concerns are included in ongoing assessments and initiatives on water resources and inland water. These include, e.g. the IUCN's Freshwater Biodiversity Assessment, the Global International Water Assessment (GIWA), and the UN World Water Assessment Programme (WWAP).[240]

The Convention affirms in the Preamble that the conservation of biodiversity is a 'common concern of humankind', thus expanding the usual territorial limit of responsibility of States to their own national jurisdiction. It is an example of the trend in multilateral treaties on environmental matters of 'common concern', where co-operation is an essential element with legal protection.[241] Nevertheless, the Convention does not seem to limit the jurisdiction of States concerning biological resources or technologies. But it lays down the obligation to co-operate as the 'mechanism' by which the mutual exchange of concessions is to be reached.[242] In fact, it is noted in the Preamble that 'ultimately, the conservation and sustainable use of biological diversity will strengthen friendly relations among States and contribute to peace for humankind'.

Notwithstanding the number of parties to the Convention, in 2002, ten years after it was opened for signature, the Conference of the Parties adopted in decision VI/26 a Strategic Plan for the CBD which was developed in order to guide its further implementation at the national, regional and global levels. In this document, the obstacles to the implementation of the Convention were

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[240] See the Report on the *Status and Trends of Biodiversity of Inland Water Ecosystems* prepared by the CBD Secretariat (2003).

[241] For other conventions, see *supra* s.3.2.4 and 3.2.5.

[242] Wolfrum (1996), 388.

identified. Besides the lack of political will and support to implement the Convention, and the limited public participation and stakeholder involvement, those specifically on collaboration/co-operation were the lack of synergies at the national and international levels, lack of horizontal co-operation among stakeholders, lack of effective partnerships, and lack of engagement of the scientific community. Since the 2002 World Summit on Sustainable Development, several scientific reports have confirmed the gravity of the situation worldwide, as biodiversity loss impacts on important aspects of human life, such as food security, vulnerability to natural disasters, energy security, and access to clean water and raw materials. As with water-related issues, a network of different participants besides governments, such as NGOs, is crucial to achieve the goals laid down in the CBD.

4

The Procedural Corollaries of the Principle of Co-operation[1]

The process of sound philosophizing, to my mind, consists mainly in passing from those obvious, vague, ambiguous things, that we feel quite sure of, to something precise, clear, definite, which by reflection and analysis we find is involved in the vague thing that we start from, and is, so to speak, the real truth of which that vague thing is a sort of shadow.

Bertrand Russell,
The Philosophy of Logical Atomism, 1918

Further to the general reference to the need for, and obligation of, co-operation, the concept is used in many cases with a specific meaning. In such cases co-operation is manifested primarily through individual procedural rules. This Chapter examines these concrete applications of the principle of co-operation, and their evolution, especially in conventional state practice. These procedural rules include the obligation to exchange data and information regularly, the obligation to notify planned measures, environmental impact assessments, and emergency information, the obligation to enter into consultations, and the obligation to negotiate in good faith. The examination of these rules aims at identifying their main strengths and critical weaknesses, as well as their importance outside specific treaty régimes.

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[1] This chapter is based on a chapter published in Boisson de Chazournes and Salman (eds.)(2005), 281-339; and on a paper presented at a UNESCO Conference and published in the Conference Proceedings, Castelein and Bogardi (eds.)(2004), 299-315.

4.1. The Principle of Co-operation and its Corollaries

4.1.1. Procedural Rules Identified

There are numerous examples of unilateral acts of States that could involve actual or potential detriment to the interests of other States. In the 1960s, Brazil decided to construct a dam of enormous proportions in the Paraná River, which is shared between Brazil, Paraguay and Argentina. After Brazil and Paraguay agreed to construct the dam under a condominium régime for the purposes of hydro-electric power generation,[2] Argentina, the downstream State, protested at having been excluded from the negotiating table. Today, however, the Itaipú Hydro-electric Power Plant, still the largest in operation in the world, located in the stretch of the frontier between Brazil and Paraguay, is also the subject of an agreement concluded in 1979 between these three States, which integrates the different Paraná River projects and provides for the establishment of technical co-operation.[3]

Decades later, similar situations continue to occur. However, not all differences end with the same reasonable results. This is the case, for instance, with China's decision, without notifying, or consulting with, other riparian States, to construct eight dams on the Mekong River, which will produce significant adverse effects downstream, notably by reducing the flow.[4] Another example is the case of Turkey's decision to carry out the controversial South Eastern Anatolia Project (GAP Project), which comprises the construction of a series of dams on the Euphrates and Tigris Rivers, without giving advance notification of the project to Syria and Iraq.[5] These situations raise the following questions:

- Does the principle of co-operation impose any substantive limitations on the activities that States may undertake in their own territory?

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[2] The 1973 Treaty of Itaipú.

[3] See *supra* s.1.3.1. and *infra* s.6.2.6.

[4] See *infra* s.6.2.

[5] *Id.*

- Are there any procedural requirements that have to be satisfied before a State can unilaterally undertake works that actually interfere or may substantially interfere with the rights of other States?
- Do States generally notify or consult other States in the absence of a treaty before embarking on planned projects or activities which may entail transboundary harm?
- Does a potentially affected State have a right to veto the implementation of planned works by another State?

The answer to these questions requires examination of the specific procedural duties, which are corollaries of the general obligation to co-operate. Although interconnected, these are independent rules, and should be assessed separately as to their scope, legal status and application. They may vary considerably in each case in their implementation, depending to a great extent on the mechanisms established between the parties in bilateral or multilateral treaties. In this regard, both the 1992 Helsinki Watercourses Convention and the 1997 UN Watercourses Convention play an important rôle in providing possible model rules.[6] But it may be asserted, as a general statement, that the rules of the 1992 Helsinki Watercourses Convention are more stringent and detailed than those of the 1997 UN Watercourses Convention, especially the procedural rules.[7] Indeed, as a universal framework convention, the latter allows for considerable flexibility.[8]

4.1.2. The Rôle of Procedural Rules in the Law of International Watercourses

Procedural rules are intended to regulate the relations between States, whether established on a regular basis, such as the obligation to exchange data and information on the condition of the watercourse, or on specific occasions, such as the obligation to notify planned measures. In fact, the procedural corollaries of the obligation to co-operate are formal rules of communication *par excellence* between States whatever the underlying subject-matter. They play a decisive

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[6] See *supra* s.3.2.4.

[7] Tanzi (2000), 53.

[8] For a comparative analysis of the two conventions, see Tanzi (2000).

rôle in the implementation of the substantive principles of equitable and reasonable utilisation and of diligent prevention of significant transboundary harm,[9] and in the protection of the environment of international watercourses. These rules serve primarily a preventive function, but if harm has nevertheless been caused to another State, they come into play in order to eliminate or mitigate such harm.

The principle of equitable and reasonable utilisation is a general and flexible principle requiring rules of procedure for its implementation. Otherwise, situations could frequently occur where, for example, a State would only find out its equitable share by unintentionally depriving another State of its own share. In presenting this possible scenario, Special Rapporteur McCaffrey explains:

> It cannot lightly be presumed that state practice has created such a legal state of affairs, since this would mean that the norm of equitable utilization, in effect, creates disputes rather than avoiding them. There would be no legal certainty in respect of States' use of international watercourses [...] the practice of States does attest to the existence of a procedural complement to the substantive norm of equitable utilisation. Without the sharing of data and information and without prior notification of planned projects or new uses, the doctrine of equitable utilization would be of little use to States in planning their watercourse activities; it would be of use principally for third-party dispute settlement.[10]

In fact, the scope of the right of equitable and reasonable utilisation depends on the facts and circumstances of each individual case. But the major problem in applying the principle under review is one of weighing the relevant factors, i.e., the different uses and needs, and assessing and balancing the benefits derived therefrom.[11] This clearly requires policy decisions that go beyond the legal field.

The obligation not to cause significant transboundary harm also requires different procedural rules to be complied with. Should harm occur, the issue of the responsibility of the State is raised. These rules then help in measuring the

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[9] See the 1987 McCaffrey's Third Report, 23, para.35.

[10] *Ibid.*, para.36.

[11] See *supra* s.2.3.4.

degree of diligence of the State's conduct,[12] and consequently the level of compensation that might have to be paid.[13]

These procedural obligations aim at ensuring participation of all interested States in the decision-making process concerning planned measures or new uses of the watercourse, thus enabling the States likely to be affected to express their concerns, to assess the effects of the proposed activities on the environment and on the territory of the other States, and to take adequate measures.[14] Hence, the substantive decisions reached by each riparian State take into consideration potential transboundary harm from planned works or existing uses of the waters and the interests of the States likely to be affected. This follows the modern approach to water resource management which 'requires basin-wide planning *ex ante*, rather than accommodation of conflicting uses *ex post*',[15] thus confirming that the substantive principles and the procedural rules 'form an integrated whole'.[16]

Last, but certainly not least, at the domestic level, the rules under consideration are part of the due process of good governance, since they assist in preventing arbitrary decision-making by introducing mandatory external factors.[17]

Each procedural rule will now be examined separately.

4.2. The Obligation to Exchange Data and Information

States have a right to require relevant and available data and information from other riparian States relating to the physical characteristics of a shared river and to present and planned uses in order to determine their rights and comply

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[12] Okowa (1996), 332-3.

[13] See *infra* Ch.6.

[14] Okowa (1996), 277.

[15] 1987 McCaffrey's Third Report, 23, para.34.

[16] *Id.*

[17] Okowa (1996), 278.

with their obligations under the principle of equitable and reasonable utilisation and their obligation not to cause significant transboundary harm.[18]

The general obligation to exchange data and information between riparian States is well established in treaty practice, in addition to finding support in declarations and resolutions adopted by intergovernmental and international non-governmental organizations. Initially, and in particular through the work of scholarly associations, the obligation under consideration was put forward as a mere recommendation,[19] but soon afterwards its legally binding character was recognised.[20]

This obligation has been inserted in numerous multilateral and bilateral treaties of different regions relating to international rivers in terms requiring continuous compliance. This practice shows a wide recognition of the need for the systematic exchange of different types of information of a technical, scientific, or administrative nature. Although the types of data and information to be shared regularly are not always specified in the treaties, frequently they relate to the general conditions of the aquatic environment, the measurement of water flow, extractions, releases from reservoirs, sources of pollution, etc. Hydrographic data, for instance, relate generally to the measurement, description and mapping of the waters of the watercourse, to the properties of water, including water flow, and to its distribution. But information may also include other water-related matters, such as weather forecasting.

The provisions vary from those of general character,[21] to detailed ones concerning not only the exchange, but also the collection and processing of the data and information relating to the international water resource. A good example is the 1960 Indus Waters Treaty, which contains in Article 6 a set of very elaborate rules on the exchange of data concerning water flow and

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[18] See Articles 9 and 11 of the 1997 UN Watercourses Convention and Article 13 of the 1992 Helsinki Watercourses Convention.

[19] See recommendation 3 of the 1958 ILA New York Resolution, which was the basis for Article XXIX(1) of the 1966 ILA Helsinki Rules. For the evolution of the obligation, see Bourne (1972), 172, reprinted in Wouters (ed.)(1997), 161-3. For a survey on the matter, see 1988 McCaffrey's Fourth Report.

[20] E.g. Article VII of the 1979 IDI Athens Resolution on Pollution, Article 5 of the 1982 ILA Montreal Rules on Water Pollution, and Article 56 of the 2004 ILA Berlin Rules.

[21] E.g. Article 3(6) of the 2000 SADC Revised Water Protocol.

extractions.[22] Furthermore, unless the data and information are to be provided at the request of other States,[23] the frequency of the exchange may be specified.[24] Several treaties also set forth the obligation to provide different types of data and information related to a specific use[25] or on specific occasions, such as in the case of planned measures[26] and in emergencies.[27]

States may establish joint databases and develop rules for rapid information exchange in crisis situations, such as floods, droughts, or accidental pollution. They may also exchange information on national water policy plans, including basin action programmes and plans, as well as the revisions made to relevant laws and regulations.[28] The communications between the parties may take place through a joint established body, or between the departments of different Ministries, such as Natural Resources, Public Works, or Agriculture. This may be illustrated by the 1994 Treaty of Peace between Israel and Jordan, which provides in Article VI of Annex II concerning water-related matters an obligation to exchange relevant data on water resources through the Joint Water Committee established under Article VII.[29] Similarly, the collection of data on water flow is often one of the main tasks entrusted to joint commissions or other bodies. States frequently establish observation stations, even (with consent) on other States' territory, in order to facilitate the collection of the data and information. This may be exemplified by the 1960 Indus Waters Treaty concluded between India and Pakistan, which provides in Article VII for co-operation in the collection of data and information through the establishment of observation stations since 'the two Parties recognize that they have a common interest in the optimum development of the rivers'.

The purposes of the provisions concerning the exchange of data and information are varied: primarily, they aim at maintaining an equitable

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[22] Another example is the 1998 Luso-Spanish Agreement, which lays down detailed rules in Annex 1, Articles 4(2)(a) and Article 5.

[23] E.g. Article VI(2) of the 1960 Indus Waters Treaty; Article 13(3) of the 1992 Helsinki Watercourses Convention; and Article 5(3) of the 1998 Luso-Spanish Agreement.

[24] E.g. Article VI(1) of the 1960 Indus Waters Treaty.

[25] E.g. Article 18 of the 1987 ZACPLAN.

[26] See *infra* s.4.3.1. and 2.

[27] See *infra* s.4.3.3.

[28] E.g. Article 5(2) of the 1998 Luso-Spanish Agreement.

[29] See also the 1996 Declaration of Principles of Co-operation on Water-Related Matters.

allocation of the waters and preventing transboundary harm, and, more recently, they aim at attaining optimum utilisation of the waters and consequently maximising the benefits for all riparian States. This is particularly evident in agreements establishing joint institutional mechanisms to implement planning and development schemes for the entire river basin so as to facilitate co-operation between watercourse States.[30] In this respect, the several projects of technical assistance supported by one or more donors, which promote, *inter alia*, the collection, analysis and exchange of relevant data and information, are of particular significance.[31] In addition, based on specific mechanisms provided for in treaties, the regular publication of data and other relevant information allow States to determine in certain cases if damage has occurred.[32]

The 1997 UN Watercourses Convention contains several relevant provisions. It lays down in Article 9 the obligation to exchange data and information on the condition of the watercourse 'on a regular basis'.[33] It makes a general reference to the type of data and information to be provided, namely, information of a 'hydrological, meteorological, hydro-geological and ecological nature and related to water quality as well as related forecasts' (Article 9(1)). The Convention lacks a substantive description as to the specific information to be submitted. This may be justified by the fact that the ILC and the UN Sixth Committee considered that the provisions on the subject should be sufficiently flexible to take into account the wide variety of circumstances to which they must apply. Indeed, the Convention is intended merely to provide guidelines to States which must then adjust its provisions to the characteristics and uses of the particular watercourse by concluding other agreements (Article 3(3)). Hence, there is a need to identify the data and information that is required to be exchanged between the riparian States. This need has been recognised at the international level.[34] Since multilateral framework conventions only provide general guidance,

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[30] See, e.g. the 1994 OKACOM Agreement. For the rôle of OKACOM, see Pinheiro, Gabaake, and Heyins (2002).

[31] E.g. the Project on the Environmental Protection and Sustainable Management of the Okavango River Basin, funded by GEF in co-operation with UNDP, and executed by FAO, or the Project for the Joint Integrated Management of the Maputo Basin, also funded by GEF in co-operation with UNDP, UNEP and the World Bank, and executed by FAO on behalf of UNDP.

[32] E.g. Article 7 of the 1999 Protocol on Water and Health.

[33] The 1992 Helsinki Watercourses Convention provides for this obligation in Article 13 in more detail, but it is not exhaustive.

[34] For example, the Interregional Meeting of International River Organizations held at Dakar in 1981 concluded that 'Since data gathering, processing and dissemination for complex shared water resources systems is costly and is a continuous process, it is more than normally important that the system States agree quite specifically on the kinds of data needed for different

it is left for the parties to bilateral or multilateral regional or river basin treaties to agree on precisely what data and information should be exchanged.

Some agreements providing for this obligation refer to the exchange of *available* data and information.[35] This is mainly due to data constraints which could cause problems of compliance. One of the critical issues concerning the Mekong basin is precisely the obtaining of relevant and exact data. This was recognised by the CEO of the MRC Secretariat in August 2003, who stated that '[g]etting the right kind of data is a crucial first step for successful cooperation.'[36] These constraints concern the quality and availability of water data, for instance, due to the lack of adequate measuring instruments or the lack of long-term records. But some of these may be solved by agreement between the parties, for example, by allowing access to their territory for purposes of data collection and observation or for the installation of flow measuring devices.

Most data on water availability and use exist only at the national level, and not at the basin level. This includes data and information on basic variables, such as water flow and withdrawals, aquifer recharge rates, etc. Although surface water monitoring programmes are well developed in many States, water quality monitoring is often rudimentary or nonexistent. At present most States still lack groundwater monitoring, both in terms of its quantity and quality, on storage capacity and use. The data and information on socio-economic variables essential for an integrated approach to water resources management is occasionally difficult to obtain. These variables include population density and distribution in relation to water resources, income distribution, the degree of dependence on inland waters and the biodiversity they support, food production from inland waters, etc.[37]

Problems may also arise from the cost of collecting and processing the data and information as these usually require expensive monitoring networks. A balance must be reached in order to allow the economic and social development of the

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purposes, and on the scheme for their collection. With respect to the basic hydrologic data and operational information, however, a free and ample flow on a timely basis is called for at all times'. UN (1983), Part 1, para.49, conclusion 11.

[35] E.g. Article 5 of the 1998 Luso-Spanish Agreement.

[36] Joern Kristensen, at the State of the Basin Report launch.

[37] CBD Secretariat (2003), 90.

States while not imposing an onerous burden on other States. Here, the 1997 UN Watercourses Convention provides some guidance: the obligation to co-operate relates to 'readily available' data and information, but if this data and information is not readily available, States have an obligation of due diligence to provide the requested information, that is, States should 'employ the best efforts to comply with the request'. However, a State 'may condition its compliance upon payment by the requesting State of the reasonable costs of collecting and, where appropriate, processing such data and information' (Article 9(2)). This solution had already been adopted, for instance, in the 1960 Indus Waters Treaty (Articles VI(2) and VII(1)(b)), and in the 1992 Helsinki Watercourses Convention (Article 13(1) and (3)).[38]

Technical cooperation is fundamental across the various sectors involved in water resources management because the 'lack of appropriate information often gives rise to simplified assumptions held by riparians about each other. Yet, river management is such a complex field that it requires sound and precise knowledge of the hydrological, biological, chemical, etc. processes at play. Joint river plans will thus only be credible when based on accurate data and accurate assumptions. Moreover, technical cooperation will enhance the effectiveness of the mitigation of basin-wide or even regional disasters, such as floods and droughts'.[39]

The requirement of provision of data and information appears in many instances connected with the obligation to enter into consultations.[40] This is explained by the fact that meaningful consultations may only take place if relevant information has previously been provided to all riparian States or to those States likely to be affected by planned measures.[41] In fact, the obligation to exchange data and information is the minimal co-operation and a 'precondition for the realisation of higher degrees of co-operation'.[42]

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[38] This Convention uses the expression 'reasonably available' data. See also Article 67 of the 2004 ILA Berlin Rules on sharing expenses in different circumstances.

[39] Savenije and van der Zaag (2000), 34.

[40] E.g. Article 13 of the 1984 Cabora Bassa Project Agreement.

[41] For instance, UNGA Resolution 3129 (XXVIII), para.2, adopted in 1974, underlined the importance of co-operation to be developed 'on the basis of a system of information and prior consultation'. In the same line, see Article 3 of the 1974 Charter of Economic Rights and Duties of States.

[42] Tanzi and Arcari (2001), 195. Although recognising the importance of this obligation, Sohnle considers the obligation to consulte and negotiate the minimal form of co-operation between States. Sohnle (2001), 349-50.

In this respect, Article 11 of the UN Watercourses Convention lays down a general obligation of each watercourse State to provide the other riparian States with information concerning the possible effects upon the condition of the international watercourse of measures they plan to undertake and to consult with them in this regard. This article goes beyond the notification requirement set forth in Article 12 and subsequent articles, since it requires not only the exchange of information on the possible significant adverse effects but also on the positive effects of the planned works. This exchange of information and consultation aims to prevent problems arising from a unilateral assessment of the effects of the project.[43]

It should be noted that Article 12 of the UN Watercourses Convention also lays down an obligation to provide 'available technical data and information ... in order to enable the notified States to evaluate possible effects of the planned measures'. This obligation is, in fact, implicit in the obligation to notify planned works or uses with possible adverse effects.[44]

As with Article 302 of the 1982 UNCLOS, Article 31 of the 1997 Watercourses Convention sets forth an exception to the obligation of provision of data and information in the cases where the disclosure of these data and information would be contrary to the essential interests of defence or security of the State.[45] To avoid a situation where the potentially affected State would 'be left entirely without information concerning those possible effects',[46] Article 31 qualifies this exception by providing that States have an obligation to co-operate in good faith 'with a view to providing as much information as possible under the circumstances'. It should be pointed out that, unless there is a state of necessity, States may not invoke this exception in the event of a breach of the principle of equitable and reasonable utilisation or the no-harm rule.[47]

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[43] See the 1994 ILC Report, 111.

[44] Bourne (1972), 174.

[45] See also Article 56(5) of the 2004 ILA Berlin Rules, which specifies the cases where States need not provide information, e.g., if this would compromise intellectual property rights, including commercial or industrial secrets.

[46] The 1994 ILC Report, 132.

[47] See Tanzi and Arcari (2001), 200-1.

In 1972, Bourne argued that the general obligation to exchange data and information regularly had not yet attained the status of a rule of international law.[48] More recently, Tanzi has suggested that the 1997 UN Watercourses Convention has crystallised the obligation to exchange data and information on the condition of the watercourse – a minimal form of co-operation – into a rule of general customary international law.[49] The same reasoning may be applied when examining the existing evidence supporting an identical proposition in relation to other procedural rules.[50]

Conversely, the obligation to exchange data and information concerning planned measures which might cause serious injuries to co-basin States was emerging, even in 1972, as a rule of general customary international law or as a general principle.[51] Since then international law has evolved, and it may be argued that this obligation is now part of the *corpus* of customary international law.[52]

4.3. The Obligation of Notification

4.3.1. The Evolution of the Obligation of Notification

4.3.1.1 Concept

The obligation to notify planned measures arises when a riparian State intends to carry out new activities on its territory on an international river and these entail a risk of affecting other riparian States. These activities might concern the construction of a dam and a hydro-electric power plant, or a reservoir for irrigation purposes or flood control. The planning State must notify these States before the proposed new works or change of previously existing use are implemented, and provide relevant technical data and information, including

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[48] See Bourne (1972), 174.

[49] See Tanzi and Arcari (2001), 196.

[50] See *infra* s.4.3.1.5.

[51] Bourne (1972), 173 and 175.

[52] For a general discussion of the legal status of procedural rules, see *infra* s.4.3.1.5.

the results of any impact assessment, relating to the activity and risks involved, as well as the potential harm to the States likely to be affected.

The purpose of the notification is to allow the potentially affected States to make their own evaluation of the situation and to initiate a period of consultations during which the planning State may take into account the interests of the potentially affected States. This obligation also arises in emergencies, so that the potential affected States may take some measures to mitigate the harmful effects.[53]

4.3.1.2 The Work of Scholarly Associations

Both the Institut de Droit International (IDI) and the International Law Association (ILA) contributed to the development of the rules on the notification procedure.

In 1961, the IDI adopted at its Salzburg session a resolution on the 'Utilization of Non-Maritime International Waters (Except for Navigation)' where it established in Article 5 the mandatory requirement of prior notification in case the works or utilisation of the waters might produce serious effects on the use of those waters by other States. In addition, Articles 6 to 8 set forth a notification procedure: in the event that an objection is made, States should enter into negotiations in order to reach an agreement within a reasonable period of time; and during negotiations States should, in accordance with the principle of good faith, abstain from implementing the works or utilisation of the waters or from taking any other measure that could aggravate the situation.

Subsequently, the ILA included rules on notification in the 1966 Helsinki Rules, a milestone in the ILA's work on the law of international watercourses. The inclusion of this procedure in Chapter 6, entitled 'Procedures for the Prevention and Settlement of Disputes', is explained by the fact that the Committee considered it very important for the avoidance of disputes and one of the most difficult questions encountered in connection with the settlement of disputes.[54] But in contrast to the IDI's Salzburg Resolution, these rules have

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[53] See *infra* s.4.3.3.

[54] See commentary to Article XXIX, 520.

the nature of mere recommendations. Article XXIX(2) stipulates that a State should, regardless of its location in a drainage basin, 'furnish to any other basin State, the interests of which may be substantially affected, notice of any proposed construction or installation which would alter the regime of the basin'. In addition, it is recommended in Article XXIX(3) that a State providing the notice afford the notified State a reasonable period of time in which to assess the impact of the proposed measures and to furnish its views to the planning State. Since prior notice is not mandatory, the Committee considered that the State proposing the change should not be penalized for failure to comply with these recommendations. Nevertheless, Article XXIX(4) in fact provides a sanction: if the planning State fails to give notice to other basin States, it will not be allowed to avail itself of any right which may derive from temporal priority in use. Even though the 1966 ILA Helsinki Rules fail to mention the extent to which a State may secure a recognised advantage through priority of use,[55] this rule, which finds no support elsewhere, has been criticised for allowing a situation where the substantive rights of the planning State could be seriously affected while the other basin States have not suffered any harm from the lack of prior notice.[56]

Several other studies and resolutions have been adopted supporting the obligation concerned.[57] However, it was the work of the International Law Commission for more than 20 years on the topic of the law of the non-navigational uses of international watercourses that made the most significant contribution to the codification and progressive development of international law on the notification procedure, in particular the 1994 ILC Draft Articles which after intense discussions at the UN Sixth Committee led to the text of the 1997 UN Watercourses Convention.

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[55] P. 522.

[56] For a criticism of Article XXIX(4), see Bourne (1972), 160.

[57] Further to the 1966 Helsinki Rules, the ILA confirmed the obligation of prior notification in the 1980 ILA Belgrade Articles (Articles 7 and 8), in the 1982 Montreal Rules on Water Pollution (Articles 5 and 6), and in the 2004 ILA Berlin Rules (Article 57). See also Article II of the 1986 ILA Seoul Complementary Rules.

4.3.1.3 *Lake Lanoux* Arbitration [58]

The landmark case[59] that unquestionably contributed to the development of the law concerning the notification procedure is the *Lake Lanoux* arbitration between France and Spain. It concerned the diversion of the waters of the Lake Lanoux to the Ariège River with full restitution still on French territory to the international River Carol. The planned diversion amounted to 25 per cent of the flow of the river, the waters of which were relied upon in Spain for irrigation. Fearing that its rights and interests would be adversely affected by the French works, Spain claimed that under the Treaty of Bayonne, of 26 May 1866, such works could only be undertaken with its consent. In the award of 1957, the arbitral tribunal considered the existence of procedural obligations, namely the obligations to notify, to consult and to negotiate with the potentially affected States.

The tribunal had to decide, *inter alia*, whether France had complied with the procedure laid down in Article XI of the Additional Act to the Treaty of Bayonne, before proceeding with its project of diverting the waters of Lake Lanoux. According to this article, France had to give prior notice of works that could change the course or the volume of a watercourse flowing into Spain, so that the interests that could be involved on both sides would be safeguarded. The tribunal held that France had complied with its obligations under Article XI by notifying Spain of its planned works, including the diversion project, by consulting with Spain prior to initiating the project, and by subsequently altering its original plan, so that the waters would reach Spain from the same point on the frontier, in order to accommodate Spanish interests.

The tribunal also held that international law does not require prior consent by the notified State for the implementation of the proposed measures by the planning State. The tribunal stated that

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[58] (France *v.* Spain), Award of 16 November 1957. For a more detailed analysis of the case, see *supra* s.3.2.6.4.

[59] See also the *San Juan River* Arbitration and Case (1888) and (1916), *supra* s.3.2.6.1.

the rule according to which States may utilise the hydraulic force of international watercourses only on condition of a *prior* agreement between the interested States cannot be established as a custom, or even less as a general principle of law.[60]

This award was based on the terms of a treaty, but the examination of the procedural rules by the arbitral tribunal went beyond the interpretation of those treaty provisions. Among other statements, the tribunal seems to suggest that there is a principle of general application according to which

[a] State wishing to do that which will affect an international watercourse cannot decide whether another State's interest will be affected; the other State is the sole judge of that and has the right to information on the proposals.[61]

This assertion implies an obligation to notify planned works and to consult with the other co-riparians in the context of an international watercourse.[62]

4.3.1.4 The Notification Procedure in the 1997 UN Watercourses Convention

The 1997 UN Watercourses Convention provides a detailed notification procedure from Articles 11 to 19 based on the experience of the World Bank,[63] and to a great extent on existing conventional practice.

Article 12 lays down the obligation of the planning State to notify the proposed measures with possible significant adverse effects to all potentially affected States prior to implementing them. This raises at the outset two issues: the need for identification of 'planned measures', and the clarification of the expression 'significant adverse effect' upon other watercourse States.

As to planned measures, the 1997 UN Watercourses Convention fails to produce a listing, even non-exhaustive, of the types of activities that require notification, e.g. the construction of a dam or other hydraulic works beyond a

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[60] 24 *ILR* (1957), 130.

[61] *Ibid.*, 119.

[62] Bourne (1972), 166.

[63] See *infra* s.4.3.1.6.

certain scale.[64] However, since the planned measures to be notified are those that may have significant adverse effect, this seems to exclude small-scale works, e.g. minor alterations or additions to an ongoing project.[65]

The Convention does not identify the form of relevant injury. It makes a distinction between the expression 'significant adverse effect' used in Articles 12 and 26 and 'significant harm' used in Article 7(1) regarding the due diligence obligation. This seems to indicate that the threshold established for the obligation to notify is lower than that which deals with damage which entails liability. This raises the question of who assesses the character of the potential significant adverse effects.[66] According to Article 12, it is the notifying State itself which makes this assessment, since notice must be given before it decides to implement the measures or before it gives private entities permission to implement the planned measures. However, in the event that the planning State does not consider the planned works to produce significant adverse effects or simply if it decides not to notify potentially affected States, the notification procedure may be triggered by the latter States as soon as they become aware of the proposed activities. This procedure of notification upon request is set forth in Article 18(1).[67] This is intended for situations where States likely to be affected have 'reasonable grounds to believe that another State is planning measures that may have a significant adverse effect upon it'. For this reason, the request has to be accompanied by a documented explanation setting forth these grounds.[68] In the event that the planning State considers that it is not under an obligation to notify, it has to inform the potentially affected State of this and justify it. If nevertheless this State is not satisfied with the explanation of the planning State, it may promptly ask to enter into consultations and negotiations. Moreover, it may request the

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[64] Instead of 'planned measures', Article 57 of the 2004 ILA Berlin Rules uses the terms 'programs, plans, projects, or activities'.

[65] Similarly, the ILC regarding the topic of injurious consequences arising out of acts not prohibited by international law, which includes the work on prevention of transboundary damage from hazardous activities, does not include a list of activities that should be subjected to the obligation to notify, leaving the determination on an *ad hoc* basis. See Article 1 and commentary to the 2001 ILC Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, and *infra* s.6.3.2.

[66] Sohnle suggests that the ideal solution would be to leave the appreciation of the character of the effect of the project to an independent organ with management functions, such as the one established in Article 7 of the 1975 Statute of the River Uruguay. In case of dispute, the issue should be referred to a court or tribunal. See Sohnle (2002), 344.

[67] Following the same terms of Article 3(7) of the 1991 Espoo Convention.

[68] See also Article 57(3) of the 2004 ILA Berlin Rules.

suspension of the works for a period of six months, 'unless otherwise agreed' (Article 18(3)). This is in line with the case law established by the *Lake Lanoux* arbitration, where the tribunal considered that a notifying State 'cannot decide whether another State's interest will be affected' since the State likely to be affected is 'the sole judge of that and has the right to information on the proposals'.[69] In this case, the results of any environmental impact assessment carried out by the planning State are necessary to justify the lack of notification of the planned works.[70]

It should be noted that Article 12 requires 'timely' notification. This term, although not precise, is intended to require notification at an early stage in the project, thus permitting meaningful consultations and, if necessary, negotiations. Some bilateral and multilateral treaties set forth specific but varied time frames for the provision of notification for different reasons. As early as 1926, South Africa and Portugal agreed that a written notification of planned works should be provided two years prior to the implementation of any project for the use of the waters of the Kunene River in order to allow the other State to express its intention to join the project.[71] Similarly, the 1959 Nile Waters Agreement provided in Article III(2) that Egypt must give two years' notice of the intention to start the execution of the joint projects specified in the previous paragraph to build certain works in the territory of the Republic of Sudan in order to allow the parties to negotiate the precise terms of the scheme.

Another issue arising from the scope of the notification requirement is that of the identification of its addressees. Criticism has been made to the effect that the 1997 UN Watercourses Convention provides only for the State which intends to implement new measures to notify potentially affected States rather than all watercourse States,[72] as is required, for instance, by the World Bank.[73] It should be noted, however, that the interests of all watercourse States are already protected under Article 11. That is to say, planning States have a general obligation to exchange information and consult all other watercourse

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[69] *Lake Lanoux* arbitration, 119.

[70] Tanzi and Arcari (2001), 207.

[71] Article 2 of the 1926 Kunene River Agreement.

[72] Article 57 of the 2004 ILA Berlin Rules adds that 'competent international organizations' may also be the addressees of the notification.

[73] See *infra* s.4.3.1.6.

States on the possible effects of the planned measures on the condition of the international watercourse. Moreover, any State may seize the initiative and request from the planning State notification of the project in accordance with Article 18 if it has some evidence that the activity planned by other watercourse State will interfere with its rights by having a significant adverse effect on its territory.

The 1997 UN Watercourses Convention also provides, in Articles 13 to 17, a procedure subsequent to notification. According to Article 13, the notified State is given a period of six months,[74] which may be extended for another six-month period upon request in case of special difficulty, to study and evaluate the possible effects of the planned measures on its territory and to reply to the notifying States with its findings. Within this period of time, the notifying State is prohibited from implementing or permitting the implementation of the planned measures without the notified State's consent, which, in turn, may ask for additional data and information (Article 14). The purpose of this timeframe is, thus, to prevent any abuse by the notified State, since otherwise this would amount to admitting a right of veto 'which at the discretion of one State paralyses the exercise of the territorial jurisdiction of another'.[75]

However, if within the period of six months from the notification the notified State does not reply, Article 16(1) provides that the notifying State may proceed with the implementation of the planned measures, as long as these are in accordance with the notification and relevant information provided and do not result in an inequitable or significantly harmful use of the watercourse. In fact, the absence of a reply may be taken as acquiescence in the implementation of the proposed activities, and thus the notified State may be precluded from subsequently objecting to the implementation of these activities. Yet, if these activities violate the obligation of equitable and reasonable utilisation and the obligation not to cause significant harm, there is no presumption of acquiescence and the notified State may claim compensation after the period of six months. The notifying State is, therefore, under an obligation to take all appropriate measures to eliminate or mitigate such harm.[76] Nevertheless,

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[74] Some treaties also specify a different period for reply. But other treaties, as well as the IDI and the ILA, use the more flexible expression 'reasonable period of time'. See Article 6 of the 1961 IDI Salzburg Resolution; and Article XXIX(3) of the 1966 ILA Helsinki Rules.

[75] See *Lake Lanoux* arbitration, 128. See also Tanzi and Arcari (2001), 208.

[76] Tanzi and Arcari (2001), 209.

Article 16(2) provides that the claim for compensation may be offset by the costs incurred by the notifying State in the implementation of its planned measures after the expiration of the time for the reply. In this case, Tanzi argues that there is a presumption that the planning State acted in accordance with its due diligence obligation, since it notified the State likely to be affected.[77]

If the notified State does not object to the project, it has the obligation to inform the notifying State accordingly 'as early as possible', and the latter State may start the implementation of its project. If, on the other hand, the notified State considers the planned measure to be inconsistent with the provisions of Articles 5 and 7, it has the obligation to inform the notifying State and to attach a documented explanation setting forth the reasons for the finding (Article 15). The States must then enter into consultations and, eventually, negotiations 'with a view to arriving at an equitable resolution of the situation' (Article 17(1)).

Article 19 establishes an exception to the regular notification procedure 'in the event that the implementation of planned measures is of the utmost urgency in order to protect public health, public safety or other equally important interests', such as protecting the population from the danger of flooding.[78] The planning State may immediately proceed to implement the measures, but it has to make a formal declaration of the urgency of these measures and provide relevant data and information without delay to the States likely to be affected. Upon request, the States may promptly enter into consultations and negotiations. This procedure is, however, susceptible to abuse.[79]

Since the 1997 UN Watercourses Convention is a framework convention, some delegations at the Sixth Committee of the UNGA considered the notification

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[77] *Id.*

[78] 1994 ILC Report, 118. The situations covered by this article are different from those covered by Article 28 on notification in emergency situations. See *infra* s.4.3.3.

[79] Sohnle (2002), 348. Sohnle criticises the imposed timeframes of the 1997 UN Watercourses Convention's notification procedure since it arguably leads to abuses. If a notifying State follows the regular procedure, it might have to suspend its works for 18 months. But if it decides not to notify and refuses to notify even at the request of the potentially affected State, it might just suspend its works for six months during the period of consultations and negotiations. It may be argued, however, that the planning State is under a duty of due diligence, and therefore it will have to prove, notably through an environmental impact assessment, that it has fulfilled its obligation and that the planned measures do not adversely affect the other riparian States.

procedure to be too detailed.[80] Yet, there was not much debate about it within the Working Group of the Sixth Committee.

4.3.1.5 Notification Procedure in State Practice

The ILC carried out surveys of the authorities supporting the principles of prior notification and consultation.[81] The large number of treaties containing these principles illustrates the widespread practice of States willing to notify and consult other States in the case their planned conservation or new engineering works could affect other States' interests or uses of an international river.[82] State practice is consistent and not simply based on treaty.[83] In most instances, the duty of notification of planned measures is provided in the framework of an institutional arrangement.[84]

The issue of the legal status of the rule still needs to be addressed. If the rule exists in general customary international law it applies to all States irrespective of whether they are bound by a treaty.[85] General rules of procedure are more likely to become rules of customary international law than detailed rules, such as the six-month period to reply to notification.

The obligation of notification has been considered by several authors as a rule of general customary international law.[86] Authors who support this contention rely heavily on treaty practice, but this seems to be inconclusive. There is in

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[80] This criticism was made mainly by upstream States, such as Turkey, Ethiopia, Czech Republic, Slovakia, Romania, and France.

[81] These surveys included international agreements, decisions of international courts and tribunals, declarations and resolutions adopted by intergovernmental organizations, conferences and meetings, and studies by intergovernmental and international non-governmental organizations. See 1987 McCaffrey's Third Report, 28-35, paras.60-87; and 1982 Schwebel's Third Report, 105-110, paras.170-186. See also Bourne (1972) and (1972a); and Kirgis (1983), in particular Ch.II, 16-87.

[82] 1987 McCaffrey's Third Report, 30, para.72.

[83] See Kirgis (1983). For examples of recent practice in Africa, see Okidi (1997), 176-7.

[84] This is the case, for instance, of the 1994 OKAKOM Agreement, Article 1(3); or of the 1975 Statute of the River Uruguay, which provides a detailed notification procedure.

[85] Unless the persistent objector rule applies. See *infra* n.111.

[86] See, e.g. Bourne (1972), 173 and 175, who in 1972 suggested that the rule was in the process of crystallization, and in 1992 asserted that the obligations to exchange information, to notify, to consult and to negotiate form already part of customary international law, Bourne (1992) 72; Caflisch (1989), 167; McCaffrey (1998), 27, and (2001), 406-7; and Tanzi and Arcari (2001), 204 and 210. Tanzi suggests that the whole notification procedure set out in the 1997 UN Watercourses Convention, with the exception of the temporal details, reflects rules of customary international law.

fact an extensive number of States that have been participating in this practice in a consistent manner. Yet, the assessment of the value of the large number of treaties containing procedural obligations in the process of formation of customary international law requires considerable caution. Several arguments may be put forward. First, because of the diversity of factual situations to which customary rules would apply, it may be argued that they exist, if at all, only with regard to some regions.[87] Although procedural rules, by their very nature, have clear common denominator characteristics which allow them to be applied independently of a specific region, they may simply not be applied or accepted worldwide. It is not just geographical particularities that could cause particular custom to emerge. Other factors are relevant, such as cultural and social factors. Kirgis puts the issue into perspective as follows:

> As a rule... general custom is less important than regional custom in the law of drainage basins, since all states interested in any given basin will usually be within the same region. General custom becomes important primarily when state practice is inconclusive in a particular region and there is no reason to regard practice elsewhere as unsuited to basins in that region.[88]

Secondly, it may be argued that the fact that this area of the law has a preponderantly conventional character is *ipso facto* contradictory to the existence of rules of customary international law.[89] This argument, however, does not stand, and that is precisely due to the diversity of river basins. Even if States believe a norm to be obligatory, the difference between basins would always require treaties which provide for specific detailed rules to be agreed and applied between riparian States.

Thirdly, the fact that so many treaties evidence a relatively consistent normative pattern may arguably demonstrate that States believe that some form of principle or rule is obligatory,[90] or at least it may indicate what the international community as a whole considers to be good policy[91] in similar

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[87] E.g. Berber (1959), 114.

[88] Kirgis (1983), 86-7.

[89] Bruhács (1993), 72.

[90] Griffin (1959), 58, who adds that in the law of international drainage basins treaties are particularly persuasive evidence of 'law-creating international practice', at 50.

[91] Or 'equitable'. See Mendelson (2002) on the possible legal significance of bilateral maritime delimitation agreements.

situations. These consistent patterns may be a source or reflection of normative expectations also for non-parties.[92] State practice in this respect is not conclusive, since the existence of *opinio iuris* may not be presumed.[93] Thus, to assert the existence of this rule as general customary international law it is essential to clearly demonstrate the belief by States that this obligation exists as a legal duty, outside the treaty framework.[94] This belief would emerge from the practice of States parties to bilateral or multilateral treaties in relation to States non-parties and from the practice of States non-parties amongst themselves.

Although the World Bank policies and good practices have contributed directly to the practice of States and to the development of the law by its influence in the 1997 UN Watercourses Convention, state practice in this regard may be taken as reflecting the conditionality of the World Bank financing policy.[95] Also, it may be argued that States occasionally notify other States in the course of good neighbourly relations, or simply because they consider it opportune at a given time, without the conviction of this being a legal obligation.

Principle 19 of the 1992 Rio Declaration on Environment and Development, for example, may arguably serve as an indication of the view of the international community as a whole on the relevant obligation. It provides for procedural rules in the following general terms:

States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith.

The fact that this statement of principles was approved by consensus indicates its emerging legal significance.[96] But this principle focus only on environmental effects and, as with many other international instruments, the weight of this

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[92] Kirgis (1983), 19.

[93] See Principle 25 of the 2000 ILA London Principles of CIL.

[94] Commentary to Principle 25 of the 2000 ILA London Principles of CIL, 48.

[95] See *infra* s.4.3.1.6.

[96] Birnie and Boyle (2002), 105. See also Principles 28, 32 and 33, and respective commentaries, of the 2000 ILA London Principles of CIL, 55-56, 61-6.

declaration is limited as it does not have binding force, since resolutions of international organizations and conferences generally lack binding force.[97]

More significant is the work of the ILC for over 20 years on the topic of the law of the non-navigational uses of international watercourses. Procedural rules were drafted by different special rapporteurs in several reports and later on discussed in the Sixth Committee. Following its practice, the ILC has not specified whether it considered these rules as *lex lata* or *lex ferenda*.[98] However, some weight may be given to the fact that procedural rules were not controversial during the negotiation of the Convention and that they were adopted with the opposition of only three upstream riparians.[99] The Convention was finally approved by the UNGA in 1997 with 103 votes in favour, 27 abstentions, and only three votes against.[100]

It is noteworthy that, while the ILC was working on the draft rules, they were already influencing state practice.[101] One good example is the 1992 Helsinki Watercourses Convention. This regional framework Convention subsequently led to the conclusion of particular treaties in Europe.

The fact that the 1997 UN Watercourses Convention is not yet in force and only 16 States have as yet ratified it may be seen to limit the weight that could be given to the argument that the Convention has assisted in the crystallization of the emerging procedural rules into rules of general customary international law, or even codified existing rules.[102] However, this may be explained by the fact that other key articles, such as those on the settlement of disputes, were very controversial, and not due to any rejection of the procedural rules under

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[97] See also Article 3 of the 1974 Charter of Economic Rights and Duties of States, which was not adopted by consensus, but by a majority of 97 States; the UNGA Resolution 2995 (XXVII), of 15 December 1972, UN Doc.A/RES/2995 (1973); the 1973 UNGA Resolution on Co-operation in the Field of the Environment; and the 1978 UNEP Principles on Shared Natural Resources.

[98] McCaffrey and Sinjela (1998), 106. However, the former Special Rapporteur asserts the international customary character of the obligations to use the international watercourse in an equitable and reasonable manner, not to cause significant harm, and to notify potentially affected riparian States of planned measures on the international watercourse. See, e.g. McCaffrey (1998), 26-27.

[99] Ethiopia, Rwanda, and Turkey. McCaffrey attributes considerable weight to this fact. See McCaffrey (2001), 406.

[100] These were the votes of China, Burundi, and Turkey.

[101] See e.g. McCaffrey and Sinjela (1998), 106.

[102] See commentary to Principle 26 of the 2000 ILA London Principles of CIL, 49-50.

discussion.[103] In addition, it may also be argued that many States parties to existing particular treaties regulating the uses of their watercourses see only limited advantages in ratifying the Convention.[104] Nevertheless, the influence of the Convention on subsequent treaties is evident.[105] Some States have even expressly recognised that the principles and rules embodied in the Convention reflect international law.[106]

The representative character of state practice may also be open to question. Some key regional States, such as Turkey,[107] China and Brazil – upstream States of large international river basins – might challenge the legal status of the obligations of prior notification and consultation. The conduct of these States seems to indicate that they do not accept these obligations. It is arguable that in the face of opposition by a State whose interests are specially affected, an emerging rule may not mature into a rule of general customary international law.[108] However, in contrast to the *Legality of the Threat or Use of Nuclear Weapons* case, where nuclear States could prevent a general rule emerging since their strategic and possible use of the weapons was global, here the particular interest of the three States is more local. Thus, it may be argued that their persistent objection may operate only in the narrow sense of excluding them rather than preventing the rule from coming into being.

In the alternative, i.e., if it is argued that the rule already exists, the rule of the persistent objector might be invoked,[109] since these States have rejected the procedural rules in their practice. This argument requires careful analysis of these States' practice as to consistency while the rule of international custom was being formed. The reason for these States' position seems to be the fact

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[103] See McCaffrey and Sinjela (1998), 104; and Tanzi and Arcari (2001), 281-3.

[104] McCaffrey and Sinjela (1998), 105.

[105] For example, on the 2000 SADC Revised Water Protocol, or the 1995 Mekong River Agreement.

[106] E.g. para.4 of the Preamble of the 2002 Incomaputo Tripartite Interim Agreement.

[107] Further to voting against the 1997 UN Watercourses Convention, Turkey also objected to Part III on Planned Measures, with the exception of Article 11, since it challenged its nature of general customary international law.

[108] See commentary to Principle 14, of the 2000 ILA London Principles of CIL, 23-26.

[109] A persistent objector is a State that can 'exclude itself from the operation of the new rule' by manifesting its dissent to that practice before it has developed into a rule of general customary international law. See Mendelson (1998) 228; and commentary to Principle 15 of the 2000 ILA London Principles of CIL, 27-29.

that they have been involved in disputes with their downstream neighbours after having taken unilateral action.

Considering the existing evidence, and the fact that this area of the law is continuously evolving, it is possible to argue that there is sufficient evidence to support the conclusion that a rule of general customary international law has emerged. A rule of regional customary law has unquestionably matured, notably in Europe, and is thus binding on the States accepting it. In addition, it may be argued that a rule of particular customary international law has emerged between States recognising it, which is not geographically confined and thus not regional or local in the strict sense of the term. That is, the particular procedural rule binds States who are not neighbours geographically.[110] In any event, there is little doubt that if a dispute is referred to international adjudication or arbitration, the court or tribunal, in line with the *dicta* of *Lake Lanoux*'s award and the ICJ's decision in the *Gabcíkovo-Nagymaros Project* case,[111] will consider the rule of prior notification to be part of the *corpus* of general customary international law. It must be underlined that procedural rules are *sine qua non* conditions for compliance with the substantive rules of equitable and reasonable utilisation and of prevention of significant transboundary harm.[112]

Further to this discussion of the legal status of procedural rules in the law applicable to international watercourses, it has been argued that in the international law of the environment generally, rules of prior notification and consultation in cases of environmental risk are rules of general customary international law.[113] This being the case, and even considering the nature of *lex specialis* of the law of international watercourses, these customary rules must be applied in the field of shared water resources.

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[110] Mendelson (1998), 194.

[111] See *supra* s.3.2.6.5.

[112] See *supra* s.4.1.2.

[113] Birnie and Boyle (2002), 126-9. For a contrary view, see Okowa (1996).

4.3.1.6 The Impact of World Bank Policies

The World Bank, as an international financial institution, has since its inception been financing projects on international watercourses, which enables it to impose conditions on the procedures for the projects' implementation.[114] Over the years, the importance of the rôle of the World Bank in enhancing co-operation amongst States[115] and compliance with its procedural applications has increased. This may be evidenced by the wording used in the revised Word Bank Operational Policies on Projects on International Waterways[116] where the Bank urges States to 'negotiate in good faith with other riparians to reach appropriate agreements or arrangements' and offers its assistance for this purpose.[117]

The World Bank developed policies which required the application of notification procedures in the absence of agreement on the matter. These policies are more demanding than that of the 1997 UN Watercourses Convention, since they require the notification to *all* riparian States, both upstream and downstream, for *all* proposed projects, notably the construction of new dams or irrigation projects, whether these may have significant adverse effects or not. According to these requirements, notification has to provide sufficient project details in order to enable the other riparians to determine whether the proposed project may cause appreciable harm.[118] Furthermore, notified States are normally given a 'reasonable' period of six months to respond to the notification. This may be shortened in cases of emergency[119] or

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[114] For an examination of the evolution of the World Bank policies for projects on international watercourses, and its contribution to the consolidation of the notification procedure, see generally Krishna (1998).

[115] This may be illustrated by the World Bank's mediation in the conclusion of the 1960 Indus Waters Treaty between India and Pakistan, or presently the assistance in the development of the Nile Basin Initiative. See Pitman (1998); and Salman (2003). See also *infra* s.5.3.2.

[116] The Word Bank Operational Manual: Operational Policies – Projects on International Waterways (OP 7.50), from October 1994; The Word Bank Operational Manual: Bank Procedures – Projects on International Waterways (BP 7.50), from October 1994; and The Word Bank Operational Manual: Good Practices – Projects on International Waterways (GP 7.50), from November 1994, reprinted in Salman and Chazournes (eds.)(1998), 193-201.

The World Bank policy directive for the staff was initially adopted in 1956 – and later revised several times – because of the difficulties faced by the Bank due to lack of clarity of the rules of international law in this area and to respond to existing disputes between riparian States.

[117] OP 7.50, para.3, at 194.

[118] BP 7.50, para.3, at 198.

[119] GP 7.50, para.3, at 201.

extended at the request of the notified State. In these cases, the World Bank has been giving an extension of two to three months.[120]

In case of an objection by a notified State, the World Bank may appoint one or more independent experts to provide an additional opinion.[121] These independent experts, as with the fact-finding commission specified in Article 33 of the 1997 UN Watercourses Convention,[122] have no decision-making rôle in the processing of the project. Their technical opinion is submitted to the World Bank for its consideration.[123] These opinions are used by the Bank to enhance the authority of its mediation or conciliation functions.[124] In fact, the rôle of the World Bank is instrumental in enhancing the rules in this area, given that it may play a decisive rôle in the negotiation between the riparians and in third party dispute resolution procedure.[125]

There are, however, three exceptions to the notification requirement. These are: (1) projects involving additions or alterations to any continuing schemes that require rehabilitation, construction, or other changes which in the judgment of the Bank will not adversely change the quality or quantity of water flows to the other riparians, and will not be adversely affected by the other riparians' possible water use; (2) water resource studies and feasibility studies; and (3) projects related to a tributary of an international waterway that runs exclusively in the lowest downstream State.[126]

The experience of the World Bank also contributed directly to Article 30 of the 1997 UN Watercourses Convention concerning indirect procedures. This Article applies in cases where there are 'serious obstacles to direct contacts between watercourse States', e.g. where parties do not have diplomatic relations or are in armed conflict.[127] In these cases, if the planning State indicates to the Bank that it does not wish to give notification, the Bank will itself do so.[128] Similarly,

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[120] See Salman (2001a), 1497, n.81.

[121] BP 7.50, paras.8-12, 199-200.

[122] *Ibid.*, 122.

[123] BP 7.50, para.11, 199.

[124] See Tanzi (2001), 153-4.

[125] See Salman (2003), and Pitman (1998).

[126] OP 7.50, para.7, at 194-5.

[127] Article 9, comm. 3, of the 1994 ILC Draft Articles.

[128] OP 7.50, para.4, at 194 and BP 7.50 para.2, at 197.

according to Article 30, States 'shall fulfil their obligations of co-operation provided for in the ... Convention, including exchange of data and information, notification, communication, consultations and negotiations, through any indirect procedure accepted by them', that is, through third States – usually those protecting their interests under the procedures set out in Articles 45 and 46 of the 1961 Vienna Convention on Diplomatic Relations, or peace commissions, or the good offices of an international organisation.[129] But the World Bank policy goes even further: if the beneficiary State (the potential borrower) also objects to the Bank's notifying other States, the World Bank will discontinue processing the project,[130] thus making clear that notification of the project is a *sine qua non* condition of the Bank's involvement in any project affecting an international waterway.

The rôle of the World Bank in encouraging arrangements amongst riparian States has contributed to the development of international norms while it has been simultaneously influenced by the development of international law in this field, in 'a gradual and subtle process of cross-fertilization'.[131]

4.3.1.7 The Report of the World Commission on Dams

The Report of the World Commission on Dams (WCD)[132] recognises the need for co-operation among States for sharing the waters and the benefits derived from international rivers, and it lays down a strategic priority for guiding decision-making with regard to dams named 'Sharing Rivers for Peace, Development, and Security'.[133] In this regard, the report acknowledges that 'as specific interventions for diverting water, dams require constructive cooperation'.[134]

Particularly relevant to the matter under consideration is the first recommendation of the Report, which refers to the need to inform other riparian States of planned measures that may have significant effect on

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[129] 1994 ILC Report, 132.

[130] OP 7.50, para.4, at 194 and BP 7.50 para.2, at 197.

[131] Salman and Chazournes (eds.)(1998), 169.

[132] On the WCD and its report, see also *supra* s.1.5.2.4.

[133] Strategic Priority 7: Sharing Rivers for Peace, Development and Security. See World Commission on Dams (2000), 251 ff.

[134] *Id.*

them,[135] and the third recommendation, which states that dams on shared rivers should not be built in cases where riparian States raise an objection upheld by an independent panel.[136] In addition, the Commission recommends the adoption by States of a notification procedure for the building of dams which is more sophisticated than that established in the 1997 UN Watercourses Convention,[137] and which follows closely the procedure set forth in the 1991 Espoo Convention (Article 3). It is suggested that States proposing the building of a dam notify the potentially affected States at the planning stage, as part of the strategic impact assessment, and should allow them at least three months to identify relevant issues to be included at the subsequent preparatory studies and impact assessments. The notified States have the correlative obligation to respond within those three months of the notification. Subsequently, but prior to selecting an option on the shared river, the notifying State should provide the potentially affected States with adequate technical information about the proposed project and the results of any impact assessment. The notified State should respond within six months of the notification. If after this period, the parties fail to reach an agreement, an independent panel should be established according to the terms of Article 33 of the 1997 UN Watercourses Convention on fact-finding procedures to solve the dispute. If this panel upholds the objection raised by the notified State, the dam should not be constructed. If the dispute remains, and if the parties do not have recourse to dispute resolution through international, regional or bilateral agreements, the issue should be referred to the International Court of Justice.[138]

In the event that the notified State does not respond within the specified time, the notifying State may proceed with the planning and building of the dam subject to observing the relevant international law principles and the Commission's strategic priorities and policy principles. In case a State fails to notify a potentially affected State of the proposed project, the latter should be able to request and receive relevant information and express its views. If this is denied, the Commission recommends recourse to the ICJ.

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[135] *Ibid.*, 252-3.

[136] *Ibid.*, 254.

[137] For the description of the recommended procedure, see *ibid.*, 306.

[138] *Ibid.*, 254.

These recommendations follow, to a certain extent, the procedure on planned measures set forth in Part III of the 1997 UN Watercourses Convention.[139] But they go beyond its rules: first, as with the notification procedure set forth in the 1991 Espoo Convention, by providing for a notification procedure in two stages, thus increasing the communication required between the States; and secondly, by recommending that dams should not be built in cases where riparian States raise an objection that is upheld by an independent panel. Unfortunately, the Commission has not ascertained whether these or other notification procedures have been followed in practice.[140] In fact, in contrast to its work carried out in other areas, the Commission failed here to present recommendations based on empirical data.[141]

Despite this shortcoming, the Report addressed issues of international water resources law, thus bringing them for the first time to the international fora debating dams on international rivers.[142] The Report, however, is not a legally binding document.

4.3.2. The Notification of Environmental Impact Assessments

Since the nineteenth century, several treaties have included the obligation to carry out studies of possible effects prior to the implementation of a project on an international watercourse.[143] In modern treaties, this obligation seems also to have focused on the requirement on States to conduct environmental impact assessments (EIA).[144] These consist of preliminary viability studies of projects that also evaluate the effects of the proposed activities on the environment of the planning State and of other potentially affected States. Although they aim at ensuring that the environmental effects are taken into account at an early stage in the decision-making process at the domestic level, they also seem to

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[139] See *supra* s.4.3.1.4.

[140] Salman (2001b), 287. For an analysis and criticism of the Report, see also Salman (2001a).

[141] Salman (2001a), 1501.

[142] Salman (2001b), 288.

[143] See, e.g. Article 26 of the 1864 Luso-Spanish Boundaries Treaty.

[144] The use of this term and not of the more general term 'impact assessments' in the 1997 UN Watercourses Convention is criticised by McCaffrey, since these assessments of the transboundary impacts of new activities should not be limited to those on the environment. McCaffrey (2001), 408.

foster the participation of the other basin States in implementing the substantive principles of equitable utilisation in the use, development and protection of the watercourse, and the exercise of due diligence in preventing any harm thereto.[145] This is because the potentially affected State, once notified of the study, may participate in the procedure itself or enter into consultations or negotiations with a view to reaching a satisfactory resolution of the situation.

The obligation to conduct environmental impact assessments, although expressly provided for in numerous international and regional legal instruments,[146] and well-established in domestic law,[147] has not yet attained the status of a rule of general customary international law, that is, it is not binding on all States.[148] The fact that the 1997 UN Watercourses Convention does not expressly impose any obligation of conducting EIA clearly reflects the lack of *opinio iuris*.[149] Article 12 concerning notification of planned measures with possible adverse effects provides that the notification has to be accompanied by available technical data and information 'including the results of *any* environmental impact assessment'.[150] It may literally be construed as meaning that States are only obliged to provide the result of any EIA if these are conducted.

Nevertheless, it has been argued that when there is a conventional obligation to notify other States of planned activities that may entail a risk of causing transboundary harm, the obligation to carry out EIA may be taken to be implied.[151] If so, it could be argued *a fortiori* that this obligation may also be

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[145] See Tanzi and Arcari (2001), 205.

[146] Both treaties on particular rivers, such as the 1994 Danube Convention, Article 7(5)(f), which follows the terms of the 1991 Espoo Convention, and other general instruments, such as the 1992 Rio Declaration, Principle 17, the 1992 Agenda 21, paras.7.41(b) and 8.4, the 1987 UNEP EIA Guidelines, Principle 1, or the 1978 UNEP Principles on Shared Natural Resources, Principle 5. The practice of international banks, such as the World Bank or the Asian Development Bank, also require the conduct of EIA before engaging on projects that may cause transboundary harm.

[147] Already in 1972, under the National Environmental Protection Act of the United States.

[148] Okowa (1996), 281. Birnie and Boyle (2002), 132, argue that this obligation already exists under general international law in cases of transboundary risk to the environment of other States or the marine environment. This was also affirmed by the ILA in the 2004 Berlin Rules; see comment to Article 29.

[149] This does not exclude, however, the possibility of existing a rule of regional or local, or particular customary international law.

[150] Italics supplied. See also Article 56(3) in conjunction with Article 57(3) of the 2004 ILA Berlin Rules.

[151] Okowa (1996), 279.

implied in all cases where there is an obligation of notification in the same circumstances.

Logic suggests, as well as the examination of Article 12 in conjunction with other provisions, that even when such assessments are not explicitly provided for, the discharge of other duties imposed on States, such as the due diligence obligation of prevention of significant transboundary harm, or the application of the precautionary principle,[152] would usually require some preliminary and continuing assessments. Thus, EIA may be deemed to be one of the 'all appropriate measures' required to be taken by States according to Article 7 on the obligations of States not to cause significant harm. In fact, in conducting an EIA the planning State is transferring the burden of proof to the affected State. In addition, these assessments are fundamental instruments if the notified State considers that the implementation of the planned measures would result in an inequitable or harmful utilisation of the watercourse, and Article 17 on consultations comes into play. That is, 'meaningful consultations can only take place if the precise nature and effects of the proposed activity have been investigated'.[153]

But as already stated, this Convention is not yet in force, and as a framework convention that had to reach a compromise between the frequently conflicting interests of upstream and downstream riparian States, it is not surprising that it falls short of developing the law and of establishing a clear obligation on States to conduct what is now well recognised in the international community as an essential procedural obligation.[154]

In the *Gabcíkovo-Nagymaros Project* case,[155] the ICJ recognised that the project's impact upon, and its implications for, the environment were a key issue and that the impact and implications were considerable. The Court stated:

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[152] See Principle 4(2) of the 2002 ILA New Delhi Declaration of Principles of International Law Relating to Sustainable Development.

[153] Okowa (1996), 280.

[154] Strong evidence of this contention is Principle 17 of the 1992 Rio Declaration. See Birnie and Boyle (2002), 131.

[155] For an analysis of the case, see *supra* s.3.2.6.5.

In order to evaluate the environmental risks, current standards must be taken into consideration. This is not only allowed by the wording of Articles 15 and 19 [of the 1977 Treaty], but even prescribed, to the extent that these articles impose a continuing – and thus necessarily evolving – obligation on the parties to maintain the quality of the water of the Danube and to protect nature.

The Court is mindful that, in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment and of the limitations inherent in the very mechanism of reparation of this type of damage.[156]

In addition, the Court affirmed that 'environmental risks have to be assessed on a continuous basis'.[157] Even though the Court did not expressly refer to EIA nor to the scope of the obligation,[158] this may be taken to imply that the ICJ recognises the importance of conducting EIA.

At the regional level, existing and future bilateral or multilateral treaties on particular rivers may refer to the 1992 Helsinki Watercourses Convention or to the 1991 Convention on Environmental Impact Assessment in a Transboundary Context in this matter.[159] The 1992 Helsinki Watercourses Convention provides in Article 3(1)(h) for measures to be taken to ensure the application of EIA in order to prevent, control and reduce transboundary impact, and in Article 9(2)(j) for the participation of the joint bodies established under bilateral or multilateral agreements or other arrangements in the implementation of EIA relating to transboundary waters 'in accordance with appropriate international regulations'. This refers to *inter alia* the 1991 Espoo Convention, also adopted by the UN Economic Commission for Europe and in force since 1997. This framework Convention sets standards for transboundary EIA. It sets forth the obligations of the Parties to assess the environmental impact of certain activities at an early stage of planning. It stipulates that the Parties have the obligation to 'take all appropriate and effective measures to

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[156] ICJ Reports (1997), 7, 77-8, para.140.

[157] *Ibid.*, 68, para.112. However, see Judge Weeramantry diss. op. in the *Nuclear Tests* II case, ICJ Reports (1995), 288, at 344, where he asserts the existence of the principle of EIA, and also his sep. op. in the *Gabcíkovo-Nagymaros Project* case, where he also speaks of the principle of continuing EIA and evaluation in relation to projects while in operation. The obligation of prior and continuing assessment of the environmental impact of a program, project or activity was also recognised by the ILA in Article 29 of the 2004 Berlin Rules.

[158] A-Khavari and Rothwell (1998), 532.

[159] See Bosnjakovic (1998), 47-64.

prevent, reduce and control significant adverse transboundary environmental impact from proposed activities' (Article 2(1)). In particular, the Convention provides for the obligation to notify other parties of any proposed activity that is likely to have a significant adverse transboundary impact (Article 3(1)). This is required to be carried out as early as possible in order to ensure adequate and effective consultations. It goes on to specify the procedure of notification, which is to take place before the conduct of the EIA to allow the potentially affected State to participate in the process, notably through the exchange of relevant information. The Parties to the Convention further agreed in great detail on the format for notification under Article 3.[160] The main difference regarding the procedure set forth in the 1997 UN Watercourses Convention is that it allows potentially affected States to participate in the EIA process itself. In addition, its time frame is left for the parties to determine.

In Europe, recent bilateral and multilateral treaties on particular watercourses follow the UNECE Conventions and adapt their procedures to the specific circumstances of the basin concerned. That is the case with the 1998 Luso-Spanish Agreement, which sets forth the obligation to conduct EIA in relation to certain projects and activities, according to their nature, dimension and location, before their approval (Article 9(1)). The identification of the projects and activities, as well as the procedures for the implementation of the assessment, is made within a joint commission established by the treaty. In addition, Annex II specifies the conditions for the identification of these projects and activities, and refers to European Union legislation on the matter.

The European Union has been developing legislation on EIA over recent decades. On EIA procedures, two Directives are of relevance here: Directive 85/337/EEC, and Directive 2001/42/EC.[161] These Directives do not provide for the possibility of other potentially affected Member States to participate in a

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[160] This includes specific information requirements and the form of the notification. See Report of the First Meeting of the Parties to the Convention on EIA in a Transboundary Context, held in Oslo from 18 to 20 May 1998, Annex IV, Decision I/4 on the Format for Notification and its appendix. GENERAL ECE/MP.EIA/2 10 November 1998, also at http://www.unece.org/env/eia/report.htm#notification .

[161] Council Directive 85/337/EEC, of 27 June 1985, on the assessment of the effects of certain public and private projects on the environment (OJ L 175, 05.07.1985, 40), amended by Council Directive 97/11/EC, of 3 March 1997; and on Strategic Environmental Assessment (SEA), Directive 2001/42/EC of the European Parliament and of the Council, of 27 June 2001, on the assessment of the effects of certain plans and programmes on the environment (OJ L 197, 21.07.2001, 30-7). The scope of application of the Directives is very broad and it covers numerous other categories of projects that potentially cause a significant impact on the environment.

two-stage EIA process, as does the 1991 Espoo Convention, since they do not provide for information exchange before the preparation of the environmental assessment documentation.[162] They also do not provide for formal notification, but rather refer to the 'forward[ing]'of information on the project and of the environmental assessment report.[163] This may be explained by the fact that these directives lay down a minimum environmental assessment framework, and leave procedures to the Member States, having due regard to the principle of subsidiarity,[164] and also by the fact that the avoidance of disputes between Member States was not perceived as a central purpose of the directives.

In Africa, it must be noted that treaties regarding international watercourses have also began to expand the importance of EIA by adopting these national instruments' procedures in their treaty régimes.[165]

Further to EIA, States have recently been considering carrying out Strategic Environmental Assessments (SEA). While EIA is generally used for evaluating the likely environmental impact of a proposed development project or activity, SEA is intended to be adopted before the EIA, at policy and decision-making level. It allows the identification and prevention of possible environmental impact at an earlier stage in the decision-making process, enabling environmental concerns to be considered together with economic and social ones.

In 2003, the Protocol on Strategic Environmental Assessment to the 1991 Espoo Convention was adopted in Kiev, on 21 May 2003.[166] As with other UNECE Conventions, the Protocol is open to all UN members. It requires its Parties to evaluate the environmental consequences of their plans and programmes. As with other recent international instruments on environmental matters, it provides for extensive public participation in government

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[162] On the parallel between the 1991 Espoo Convention and Directive 85/337/EEC, see Nollkaemper (1993), 189-196.

[163] See Article 7 of Directive 85/337/EEC and Article 7 of Directive 2001/42/EC. The latter provides for transboundary consultations to take place within a reasonable time frame agreed between the parties.

[164] See para.8 to the Preamble of Directive 2001/42/EC.

[165] E.g. the 1987 ZACPLAN, Annex 1, II, C. Article 4(d)(iii) of the 1995 SADC Protocol provided that river basin management institutions have, as one of their functions, to promote EIA. However, the 2000 SADC Revised Water Protocol seems to take a step backwards by following the terms of the 1997 UN Watercourses Convention.

[166] Not yet in force.

decision-making in different development sectors. Similarly to the 1991 Espoo Convention, it sets forth in Article 10 the procedure for notification and transboundary consultations.

4.3.3. The Obligation to Notify in Emergency Situations

In the context of international watercourses, as in other fields related to the environment,[167] it is now generally accepted that States are under an obligation to notify other potentially affected States in emergencies that may cause significant transboundary harm. These emergencies may result from natural causes, such as floods, droughts, tropical cyclones, or from human conduct, such as industrial accidents, or from both.[168] The objective of the prompt notification is to enable all potentially affected States effectively to prevent, minimise or eliminate the harmful effects on human life, property and the environment, by taking all necessary measures. Notification must contain all necessary information about the nature of damage, its likely effects and the possible precautions that need to be taken.[169]

This obligation is well established in treaty practice. States have, in different regions,[170] included this obligation in numerous bilateral and multilateral treaties related to watercourses.[171] In addition, the IDI made a contribution to the development of the rule by setting forth the obligation in relation to a 'sudden increase in the level of transboundary pollution in the basin' in Article VII(c) of the 1979 Athens Resolution on Pollution.[172]

More recently, and at the regional level, the 1992 Helsinki Watercourses Convention provides in Article 14 the obligation to inform other riparian Parties to the Convention 'without delay' about 'any critical situation that may have

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[167] For instance, in the field of protection of the environment from nuclear accidents, where this obligation is now well established.

[168] The ILC provides some examples, such as a flood caused by earthquake damage to a dam. See the 1994 ILC Report, 129, n.397.

[169] Comm. to Principle 5 of the 2006 ILC Draft Principles on Allocation of Loss.

[170] For example, Article IV(8) *in fine* of the 1960 Indus Waters Treaty, and Article 11 of the 1976 Agreement for the Protection of the Rhine Against Chemical Pollution.

[171] For an exhaustive list of the treaties, see Sohnle (2002), 342, n.213.

[172] See also Article 4 of the 1972 ILA Articles on Flood Control.

transboundary impact'. But it goes beyond the usual notification requirement and provides for the obligation of States to set up 'where appropriate'[173] warning and alarm systems, thus calling for co-operation between States at a stage where prevention may still be possible.[174] These systems consist of different procedures to manage crises, in particular monitoring, including forecasting, the provision of early warning, and evacuation plans in case of catastrophes.

Also within the UNECE, and with a focus on prevention, the Convention on the Transboundary Effects of Industrial Accidents[175] was concluded with a view to protecting human beings and the environment against industrial accidents. This is to be achieved by preventing such accidents as far as possible, by reducing their frequency and severity and by mitigating their effects. The Convention provides for the establishment and operation of compatible and efficient industrial accident notification systems for the transmission of early warnings, information and assistance requests. In case of an industrial accident or imminent threat thereof, notification containing the information needed to counteract transboundary effects is to be provided (Article 10 and Annex IX).

The 1997 UN Watercourses Convention, as a universal framework convention, also sets forth in Article 28 the obligation of notification in emergency situations. There are certain fundamental elements that characterize the obligation. Firstly, the term 'emergency' is defined in paragraph (1) as a 'situation that causes, or poses an imminent threat of causing, serious harm', hence adopting a different terminology from that used in the 1992 Helsinki Watercourses Convention. Secondly, the time element and the means to be used follow the terms already used in other treaties, i.e., the notification of the emergency originating within its territory should be made 'without delay and by the most expeditious means available' (Article 28(2)) upon learning of the emergency.[176] Thirdly, and quite apart from the obligation to notify planned measures, the notifying State has to notify not only other watercourse States,

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[173] This is left to the discretion of States, since the need for the establishment of warning systems depends on the physical characteristics and uses made of each particular watercourse.

[174] See also Article 15 on mutual assistance.

[175] Adopted in Helsinki, on 17 March 1992, and signed on 18 March 1992 by 26 UNECE States and the European Community. It entered into force on 19 April 2000. There are now 35 Parties to the Convention. See also the 1996 Seveso II Directive.

[176] See the 1994 ILC Report, 130.

but also other States which may be affected, as well as 'competent international organizations', such as a joint river commission. The importance of the extended scope of this notification requirement should not be underestimated. The case of a water-borne disease like cholera, which may spread beyond riparian States, may well serve to illustrate this point. Although the particular case of water-borne diseases is not included as an example of an emergency in Article 28, it is referred to in Article 27. This article provides for a duty of due diligence for watercourse States to prevent or mitigate transboundary harmful conditions. It differs from Article 28 in that it does not have the element of urgency which characterizes Article 28. However, as stated by Tanzi, 'the same factual situation, being susceptible to escalation may, in different points in time, fall within the purview of both provisions'.[177] And here one of the instances provided is that of an upstream flood that causes the sudden appearance of water-borne diseases.

Like Article 27, Article 28(3) lays down a duty of action for States who have to 'immediately take all practicable measures necessitated by the circumstances' to prevent, mitigate or eliminate harmful effects. In addition, the Convention provides in Article 28(4) for the development of contingency plans to respond to emergencies, the elaboration of which is left to the discretion of the States since it depends on the characteristics of each watercourse.[178] Instead of providing for a responsive action, like the previous paragraphs, paragraph (4) calls for anticipatory action, as it requires the joint co-operation of States before any emergency situation has occurred.[179]

Since the adoption of the 1997 UN Watercourses Convention, several new treaties have followed its provisions on this subject, more or less closely, such as the 1995 Mekong River Agreement (Article 10), the 1998 Convention on the Protection of the Rhine (Article 5(6)), and the 2000 SADC Revised Protocol (Article 4(5)). The 1998 Luso-Spanish Agreement also provides in Article 11 on 'Communication, Alert and Emergency Systems', a general obligation to notify the other watercourse State, and in Articles 18 and 19, a more detailed notification requirement concerning floods and droughts and resource scarcity, respectively. All of these recent treaties require the notification to be made to

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[177] Tanzi and Arcari (2001), 223.

[178] The 1994 ILC Report, 130.

[179] *Id.*

the other Parties to the treaty and to a joint commission. This seems to indicate that States, independently of their region, follow the general terms of the 1997 UN Watercourses Convention or go further by specifying them and assigning to joint commissions certain type of communication functions. Joint commissions are evidently considered a privileged link between watercourse States, particularly where they have decision-making power regarding the taking of urgent measures.

There is enough support in state practice and case law[180] to affirm with conviction the existence of a general customary obligation to notify in emergencies which applies in particular to international watercourses.[181] This is also sustained in the literature.[182] As mentioned earlier, this obligation is recognised in treaty régimes for some decades. After the Chernobyl nuclear power plant accident in 1986 and the claim by several States of a breach of the right to be notified, the Convention on Early Notification of a Nuclear Accident was adopted.[183] The promptness of the adoption of this Convention as well as the large number of parties demonstrates, at least, the will of States to be bound by such an obligation. The inclusion of this obligation in the 1997 UN Watercourses Convention without opposition suggests the existence of this obligation in the context of international watercourses.

4.4. The Obligation to Enter into Consultations

Consultation is a procedural mechanism used to prevent disputes – a form of negotiation – whereby States, based on the information exchanged, discuss pending issues. An important stage of co-operation, consultations are primarily regarded as an opportunity for States to discuss the potential impact of the actual or proposed uses of the waters, and to prevent, mitigate or eliminate

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[180] In the *Corfu Channel* case, the ICJ, although in a different context, also referred to an obligation to give warning to other States in case they become exposed to known dangers. ICJ Reports (1949) 4, 22. This was reaffirmed in the *Nicaragua* case. ICJ Reports (1986) 14, 112.

[181] Although breaches of the obligation do occur. An example is the cyanide spill from a Romanian gold smelter in January 2000. See *infra* s.6.2.4.2.

[182] See, for example, 1989 McCaffrey's Fifth Report, at 113; Okowa (1996), 330-332; or Birnie and Boyle (2002), 322-3.

[183] The Convention was adopted on 26 September 1986 by 70 States, and entered into force on 27 October 1986. There are now 101 Parties to the Convention, including some of the States possessing nuclear weapons, such as China, France, Russia, the United Kingdom, and the USA. See Article 2 of the Convention.

their potential or actual adverse effects. But it is also the appropriate occasion to discuss any other plans to develop individually or jointly the shared resource, or the measures to protect and preserve its environment.

In the *Lake Lanoux* arbitration, the tribunal explained what it considered consultations and negotiations entailed:

> Consultations and negotiations between the two States must be genuine, must comply with the rules of good faith and must not be mere formalities. The rules of reason and good faith are applicable to procedural rights and duties relative to the sharing of the use of international rivers.[184]

It further explained that 'according to the rules of good faith, the upstream State is under the obligation to take into consideration the various interests involved, to seek to give them every satisfaction compatible with the pursuit of its own interests, and to show that in this regard it is genuinely concerned to reconcile the interests of the other riparian State with its own'.[185] But the tribunal recognises that '[it] is a delicate matter to establish whether such an obligation has been complied with'.[186]

Consultations may take place after notification of planned measures or upon request of any riparian State. In any event, consultations should take place within a suitable time in order to have practical results, that is, to benefit from the opinion of the potentially or actually affected States.[187] These States may manifest their position and contribute to the decision-making process concerning existing or planned uses of the waters of shared water resources. In fact, the purpose of notification with the provision of relevant data and information on planned measures is for the planning State to take into account the interests of the notified State, and if need be to make changes in its proposed project in order to meet the concerns of the potentially affected State. Indeed, the obligation to enter into consultations completes the obligation of notification, but it may come into play without prior notification.

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[184] 24 *ILR* (1957), 119.

[185] *Ibid.*, 139.

[186] *Id.*

[187] See the *San Juan River* Arbitration and Case, *supra* s.3.2.6.1.

International law, however, does not require consent by the potentially affected State for the planning State to implement its measure. In other words, the potentially affected State has no right of veto.[188] The danger here is that while consent is not given, the planning State may not proceed with the implementation of the project for an indefinite period of time. But once the views of the potentially affected States are put forward the planning State may not ignore these views. The reverse is also valid, that is, if a notified State does not reply to notification and does not enter into consultations, there is a presumption that it has acquiesced.

Although general international law appears not to require prior consent,[189] a number of treaties do include it. This is the case of treaties concluded between the United Kingdom and indigenous Governments in Africa and the Indian subcontinent,[190] the 1972 Statute of the Senegal River,[191] or the 1996 Mahakali River Treaty.[192] Requiring consent may, in fact, be a useful tool to prevent conflicts in cases where water is scarce and its allocation is disputed.[193]

In 1983, Kirgis concluded from a study of state practice that there is considerable evidence in support of the proposition that the rule of prior consultation is part of general customary international law with a 'clear common denominator – consultation with interested states is required before activities are undertaken that could reasonably be expected to cause a change in the watercourse appreciably damaging their interests'.[194] This has also been the opinion of other authors[195] and scholarly associations.[196] As with notification and the exchange of information, this rule is based not only on

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[188] *Lake Lanoux* arbitration, 139. See also *supra* s.4.3.1.3.

[189] In the beginning of last century, some authors and the IDI pointed to this rule, and a large number of treaties in Europe included it. See, e.g. Rule I and II (1) of the 1911 IDI Madrid Resolution, and Kirgis (1983), 20.

[190] For a list of the treaties, see Kirgis (1983), 42; and 1987 McCaffrey's Third Report, 30, n.108.

[191] See Article 4(1).

[192] See Article 7.

[193] Sohnle (2002), 354. See, for example, Annex II, Article V(1) of the 1994 Treaty of Peace between Israel and Jordan, which provides that 'artificial changes in or of the course of the Jordan and Yarmouk Rivers can only be made by mutual agreement'.

[194] Kirgis (1983), 86.

[195] E.g. Bourne (1972a), 193.

[196] See, e.g. comment to Article 8 of the 1982 ILA Montreal Rules on Water Pollution, and the usage note and Article 58 of the 2004 ILA Berlin Rules.

treaty practice but also on state practice outside the treaty framework.[197] There are some cases of state practice of consultations in different regions where there has been no previous agreement between the States regulating their uses of the waters of the shared river basin. In some cases, notification and consultations have taken place after protests made by potentially affected States. In these cases, States entered into consultations which eventually led to agreements.

The obligation to consult other States is well established in treaty régimes, thus providing evidence that States recognise the importance of consultations as a means of preventing disputes. For example, the case of the Aswan High Dam project is considered in this matter 'normatively significant and tends to support a rule of consultation, at least before final action is taken.'[198] After the United Arab Republic decided to build the Aswan High Dam, Sudan protested claiming its right to be consulted in a timely fashion. This led to negotiations which culminated in the conclusion of the 1959 Nile Waters Agreement before the actual building of the dam.

Another important example is the 1968 African Convention on Conservation of Nature and Natural Resources, concluded within the framework of the Organization of African Unity.[199] It contains a general clause establishing an obligation of States to 'act in consultation' and, if the need arises, the setting up of interstate commissions – to study and resolve problems arising from the joint use and for the joint development and conservation for both surface and groundwater resources (Article V(2)).[200] In addition, Article XIV(3) provides for an obligation to consult 'where any development plan is likely to affect the natural resources of another State'.

The 1997 UN Watercourses Convention provides for consultations in a number of different contexts.[201] Article 6(2) sets forth a duty to enter into consultations *when the need arises* in the application of the principle of equitable and

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[197] See the discussion on the evidence of custom relating to all procedural rules, *supra* s.4.3.1.5.

[198] Kirgis (1983), 44.

[199] The Convention has 30 State Parties. Angola, South Africa and Zimbabwe are not parties to the Convention.

[200] See also Article VII(3) of the 2003 Revised African Convention.

[201] See also Articles 9(2) and 10 of the 1992 Helsinki Watercourses Convention.

reasonable utilisation of the watercourse and the weighing of all the relevant factors and circumstances. According to the ILC, this means that this obligation is triggered by the request of any watercourse State.[202] The wording of Article 6(2) is unfortunate. Firstly, for the sake of consistency with the terms used throughout the Convention, it should have used the expression *at the request of any watercourse State* or a similar expression. Secondly, because it is difficult to conceive a fair determination by a watercourse State of what are its reasonable and equitable uses of the waters without prior exchange of data and information and consultation with other watercourse States. This is supported by the dictum in the *Lake Lanoux* arbitration, which clearly affirmed that a watercourse State 'cannot decide whether another State's interest will be affected; the other State is the sole judge of that and has the right to information on the proposals'.[203]

Article 24(1) provides for the duty to enter into consultations at the request of any watercourse State concerning the *management* of the international watercourse. Although it seems to overlap in application, this article actually extends the scope of the duty to consult to the protection and control of the watercourse, including monitoring on a continuous basis and irrespective of the uses of the waters.[204] Further, Article 7(2) provides for consultation when significant harm has occurred so that the State causing the harm may take 'all appropriate measures' to eliminate or mitigate such harm. In addition, the Convention specifies that the parties have to consult 'with a view to arriving at mutually agreeable measures and methods to prevent, reduce and control pollution of an international watercourse' (Article 21(3)).

The duty under consideration applies to both actual and planned uses.[205] Article 11 lays down the general obligation of exchange of information and consultation on the possible effects of planned measures on the condition of the watercourse. But the Convention goes on to specify that in the notification procedure, should the notified State object to the planned measure on the grounds of inequitable and unreasonable use, i.e., its inconsistency with the

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[202] See the 1994 ILC Report, 102.

[203] 24 *ILR* (1957), 119.

[204] Tanzi and Arcari (2001), 216.

[205] Thus Article 26 provides for a due diligence obligation and an obligation to consult relating to the operation, maintenance, and protection of installations.

provisions of Articles 5 or 7, or if the States concerned disagree as to whether notification of the proposed project was due, States have an obligation to enter into consultations and to negotiate under the terms of Articles 17 and 18.[206] The notifying State, at the request of the notified State, has to suspend the implementation of the project[207] for a period of six months. If after this period of time the parties have not arrived at an equitable resolution of the situation, the parties may then resort to third party dispute resolution in accordance with Article 33.

The two most common problems which may arise in the process of consultation are a stalemate or evidence of unequal bargaining power.[208] And although prior consultation does not always prevent differences, a considerable body of expert opinion supports the presumption that, despite its difficulties, prior consultation is usually worth the time, effort, and expense.[209]

4.5. The Obligation to Negotiate

4.5.1. Consultation and its Correlation with the Obligation to Negotiate

The negotiation process 'viewed as a whole is the principal vehicle for cooperation between States'.[210] Consultation may be considered 'a preliminary stage to a negotiation but differs from the latter when the country which initiates the consultation is merely seeking the opinion of the country(ies) concerned by the proposed activities or measures'.[211] On the other hand, the obligation to negotiate *stricto sensu*, that is, the obligation to negotiate in good

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[206] In 1961, the IDI in its Salzburg Resolution had already included negotiations with obligatory character in Article 6. This Article provides that, following notification, if a State objects to the notifying State's proposed works, the two States 'will enter into negotiations with a view to reaching an agreement within a reasonable time'. See also Article VI of the 1956 ILA Dubrovnik Statement of Principles, Article 6 of the 1982 Montreal Rules on Water Pollution, and Article VII(d) of the 1979 IDI Athens Resolution on Pollution.

[207] Although without a precise time frame, see, e.g. Article 62(1) of the 1960 Frontier Treaty.

[208] Kirgis offers the example of the remarks made by the UK delegate in the UN Conference on the Law of Treaties, 1st Sess., UN Doc.A/CONF.39/11, at 420 (1969). Kirgis (1983), 6, n.14.

[209] Kirgis (1983), 6, n.14.

[210] Rogoff (1994), 183.

[211] OECD Doc.ENV (79) 23, at 6 (1979) referred to by Kirgis (1983), 12, n.27.

faith in order to reach an agreement, is the link between other procedural rules and the mechanisms for the settlement of disputes. Once a dispute arises, it follows consultation as a logical sequence in procedure and as the preliminary stage of the process for its settlement.[212] The terms are often used interchangeably and may even have the same legal effects.

The 1997 UN Watercourses Convention makes a distinction between consultations and negotiations. Of particular relevance is the reference in Article 17 concerning planned measures to the obligation to enter into consultations and, 'if necessary, negotiations with a view to arriving at an equitable resolution of the situation'. This article comes into play when the notified State objects to the proposed works or uses. The wording in the article seems to imply that in certain cases agreement should be sought. Therefore, there is a need for evidence of the parties' willingness to reach a compromise. Examples of this 'equitable resolution' include modification of the original project in order to eliminate potential adverse effects, adjustment of the uses by either State, or the payment of some form of compensation acceptable to the notified State by the planning State.[213]

In multilateral conventions on international rivers, the general obligation to negotiate is usually established as a *pactum de negotiando*, since it imposes on States an obligation to negotiate in order to reach an agreement, as opposed to a *pactum de contrahendo*, i.e., an obligation to conclude a later and definite substantive agreement.[214] This may be illustrated by the 1923 Convention relating to the Development of Hydraulic Power Affecting more than One State, which stipulates in Article 4 concerning operations that 'might cause serious prejudice' to any other Contracting State, that the States concerned shall enter into negotiations *with a view* to the conclusion of agreements which will allow such operations to be executed. Moreover, the tribunal in the *Lake Lanoux* arbitration asserted that 'international practice reflects the conviction that States ought to strive to conclude such agreements'[215]. However, the effective conclusion of the agreement is not imposed: the obligation under review is not

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[212] Fombad (1989), 709. See also Merrils (1998), 1-26; and Collier and Lowe (2000), 20-24.

[213] The 1994 ILC Report, 116.

[214] On the distinction between *pactum de negotiando* and *pactum de contrahendo*, see McNair (1961), 27-9.

[215] 24 *ILR* (1957), 130.

one of result.[216] Accordingly, the obligation to negotiate does not imply that the conduct would be unlawful merely because the negotiations fail to produce an agreement.[217] This was recognised by the PCIJ in the *Case of Railway Traffic between Lithuania and Poland.* The Court clearly stated that 'an obligation to negotiate does not imply an obligation to reach an agreement'.[218]

States must enter into consultations and negotiate in good faith.[219] In other words, negotiations among States and between States and other subjects of international law should be meaningful in order for the parties to reach an agreement. This is in line with several decisions of international courts and tribunals.[220] The award of the *Lake Lanoux* arbitration explained that 'according to the rules of good faith, the upstream State is under the obligation to take into consideration the various interests involved, to seek to give them every satisfaction compatible with the pursuit of its own interests, and to show that in this regard it is genuinely concerned to reconcile the interests of the other riparian State with its own'.[221] The particular circumstances of the case are of significant relevance, but the tribunal recognises that '[it] is a delicate matter to establish whether such an obligation has been complied with'.[222] The tribunal went further by providing examples of conduct of States in the course of consultations and negotiations which were considered unacceptable. These included 'an unjustified breaking off of the discussions, abnormal delays, disregard of the agreed procedures, systematic refusals to take into consideration adverse proposals or interests, and, more generally, violation of the rules of good faith'.[223]

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[216] Concerning the possibility of a unilateral suspension of works the Tribunal explained as follows: 'Further, in order for negotiations to proceed in a favourable climate, the Parties must consent to suspend the full exercise of their rights during the negotiations. It is normal that they should enter into engagements to this effect. If these engagements were to bind them unconditionally until the conclusion of an agreement, they would, by signing them, lose the very right to negotiate; this cannot be presumed.' *Ibid.*, 134, para.18.

[217] Kirgis (1983), 14.

[218] At 116.

[219] See Article 17(2) of the 1997 UN Watercourses Convention.

[220] See, e.g. the *North Sea Continental Shelf* cases, ICJ Reports (1968), 47, para.85; the *Fisheries Jurisdiction* case, ICJ Reports (1974), para.78; and

[221] 24 *ILR* (1957), 39.

[222] *Id.*

[223] *Ibid.*, 128, para.11. The tribunal refers to the *Tacna-Arica Arbitration* and to the *Case of Railway Traffic between Lithuania and Poland.*

Another arbitral tribunal explained what it considered the content of good faith was in the context of a *pactum de negotiando*. In the *German External Debts* case, the Tribunal said 'both sides would make an effort, in good faith, to bring about a mutually satisfactory solution by way of a compromise, even if that meant the relinquishment of strongly held positions earlier taken. It implies a willingness for the purpose of negotiation to abandon earlier positions and to meet the other side part way.'[224] It went further to put emphasis on the need for States to solve their differences peacefully, so much so that 'when disputants have reached a point of signifying their agreement to negotiate an outstanding dispute, the subsequent negotiations normally ought to lead to a satisfactory and equitable result.'[225]

Judge Bedjaoui in his separate opinion on the *Gabčíkovo-Nagymaros Project* case[226] speaks of the necessity for the Parties to negotiate again and to do so in good faith. The renegotiation must be seen as a strict obligation, like the good faith conduct it implies. This obligation flows not only from the Treaty itself, but also from general international law as it has developed in the spheres of international watercourses and the environment.

On the same case, after recalling its pronouncement in *North Sea Continental Shelf* cases and ordering Hungary and Slovakia to resume negotiations, the ICJ stated that:

It is not for the Court to determine what shall be the final result of these negotiations to be conducted by the Parties. It is for the Parties themselves to find an agreed solution that takes account of the objectives of the Treaty, which must be pursued in a joint and integrated way, as well as the norms of international environmental law and the principles of the law of international watercourses.[227]

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[224] 47 *ILR* (1974), 453.

[225] *Id.*

[226] ICJ Reports (1997), para.69.

[227] Para.141.

All these decisions point to the conclusion that it is not enough for States or other parties in a negotiation to simply attempt to persuade the other side of the rightness of its views and to refuse to compromise on any point.[228]

4.5.2. Negotiation and Methods of Alternative Dispute Resolution

Negotiations may be deemed a form of co-operation before any dispute has arisen but also as a means of settlement of disputes. Most disputes concerning international watercourses have been avoided or settled through negotiations, whether within existing joint institutions, or at a higher political level.[229] Generally speaking, States prefer to seek a negotiated settlement for different reasons. Negotiations are the simplest means of settling a dispute, and allow the parties to retain control over the outcome as well as the form, content, wording, timing and presentation of a settlement.[230]

There are several alternative dispute resolution mechanisms that may be used in relation to international rivers.[231] In the case where negotiations are not successful within a reasonable period of time, or the parties simply do not wish to deal directly with each other, States may resort to mediation or good offices provided by an impartial third party. These are mechanisms for continued negotiations, as the rôle of the third party is not to resolve the dispute, nor to suggest a method for resolving it, but to encourage the States to resume negotiations or to provide an additional channel of communication.[232] In most cases, good offices consist simply of a continuation of negotiations, which lead the parties to agree on another means of settlement, such as arbitration or adjudication. But mediation is the method which seems to be the most flexible where the multidisciplinary approach may be adopted more effectively. The parties may participate in the various phases of the resolution process, the public may be consulted, and all those who in one capacity or another are

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[228] See also *Aegean Sea Continental Shelf* case, ICJ Reports (1978), 43-4, paras.106, 108; the *Continental Shelf* (Tunisia/Libya) Interpretation of Judgment, ICJ Reports (1985), 229, para.67; Judge Gros Dissent Opinion in the *Continental Shelf* case, ICJ Reports (1982), 144-5.

[229] See generally McCaffrey (2003).

[230] Anderson (1998), 112.

[231] On ADR methods concerning water resources, see, e.g. Ochoa-Ruiz (2005) and Sohnle (2005). See also e.g. Article XXXI of the 1966 ILA Helsinki Rules.

[232] Salman (2003).

involved with the basin may have their say. It may also involve capacity-building and training programs for the community involved.[233] So far the rôle of mediator in dispute settlement in relation to water disputes has been successfully adopted only once, namely by the World Bank in the dispute between India and Pakistan in respect of the Indus River Basin.[234]

Riparian States may also resort to other non-adjudicative means to settle disputes, such as fact-finding[235] and conciliation.[236]

Recourse to the different non-adjudicative and adjudicative means of dispute settlement is suggested in Article 33(3) of the 1997 UN Watercourses Convention. After much debate within the UNGA Sixth Committee, the Convention leaves this to the discretion of States, with the exception of fact-finding.[237]

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[233] For a distinction between these two methods, see Salman (2003).

[234] See *infra* s.5.3.2.

[235] E.g. through the establishment of a commission.

[236] See e.g. Ochoa-Ruiz (2005), 367-72.

[237] See Article 33(3) to (9).

5

Forms and Levels of Co-operation[1]

Everything is vague to a degree you do not realize
till you have tried to make it precise ...
Bertrand Russell,
The Philosophy of Logical Atomism, 1918

There are different forms or types and levels of co-operation concerning transboundary water resources: from the minimum form of direct exchange of fundamental data and information to the establishment of joint development commissions or other institutional mechanisms for the integrated management of the river basin. Consequently, the scope of the obligations to undertake specific co-operative actions in international law varies significantly.

It is far easier to argue that some sort of action is a component part of co-operation, than to determine which specific forms of action are required for this obligation to be complied with. Nevertheless, when analyzing the variety of treaties concluded between States concerning international water resources, as well as when studying different cases, one may identify similar characteristics and trends.

The different forms and levels of co-operation concerning transboundary water resources must be identified in order to structure the concept. This Chapter will set out an analysis of the variety and importance of joint institutional mechanisms or commissions as well as the rôle played by international organizations. Finally, the issue of implementation is discussed.

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[1] This chapter is based on a chapter to be published in Dellapenna, J. W., and Gupta, J. (eds.), *The Evolution of the Law and Politics of Water* (forthcoming)

5.1 The Criteria

The purpose of this exercise is to understand the various modalities of co-operation and to structure a concept which is usually viewed as an all-embracing and abstract term. The following criteria are suggested: context, geographic location, entities involved, time factor, and nature of activities.

5.1.1 The Context Criterion

A fundamental distinction that may be drawn at the outset is that between co-operation for **security and prevention of conflicts** and co-operation for the **resolution of existing disputes**. The latter in most cases takes the form of diplomatic negotiations between States, but may occasionally involve third parties using methods of dispute resolution, such as good offices, mediation, fact-finding, conciliation, international adjudication or arbitration.[2]

As to the former, one may distinguish between **preventive co-operation**, that is, joint action in order to prevent conflict or transboundary harm from occurring, and ***ex post facto* co-operation**, that is, joint operation after unilateral actions or specific accidents, with the purpose of mitigating or eliminating existing damage.

Within preventive co-operation, one may draw a further distinction between co-operative action in **normal circumstances**, where this is carried out on a regular basis, such as the regular exchange of hydrological data, and in situations which **change the *status quo***, such as notification of planned measures, like the construction and operation of a dam and a hydroelectric power plant, or early notification in emergencies, like an accident potentially causing transboundary damage.

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[2] See *supra* s.4.5.2.

5.1.2 The Geographical Criterion

Spatial delimitation obviously plays a key rôle in terms of scope of application. Co-operation may be pursued and achieved at **global, regional, river basin, national and local level.**

The geographical scope of co-operation is usually associated with international borders: co-operation at State and regional or global level governed by international law. The territorial reach or physical jurisdiction of co-operation between or among States is delimited by a drainage or river basin, as the most widely accepted basic hydrological unit for planning and management purposes.[3] But in some cases the basin may be considered without a particular portion for different reasons. For instance, if a region is physically insignificant and has limited contribution to the rest of the basin, or is located in a State not willing to participate in the basin's development. This may be illustrated by the co-operation established between the four lower riparians of the Mekong River basin through the conclusion of the 1995 Agreement on the Co-operation for the Sustainable Development of the Mekong River Basin, as China and Myanmar, the upstream States, have decided not to become Parties to the Agreement.[4]

Other spatial factors include boundary waters, for example in early navigation treaties; zones or sub-basins of concentration of projects, such as the construction and operation of a multipurpose dam and storage project on a specific area of the basin; or regional development of a specific area, for example of a neglected or critical geographical region, which may not coincide with the limitations of one international river basin, but may include in the region portions of more than one basin.[5]

Some concrete obligations of co-operation may be applied at the local level, regulated by domestic law, and others, such as those relating to emergencies, may be applied over long distances extending to several States. The 1999 Protocol on Water and Health,[6] for example, which provides an unusual

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[3] See *supra* s.1.1.

[4] Although they have observer status at the Mekong River Commission.

[5] UN (1975), 48-54.

[6] See *supra* s.3.2.4.2.

structure and approach to co-operation, considers in Articles 11 to 14 different spheres of international co-operation. First, it sets out a general obligation to co-operate in international actions in support of the objectives of the Protocol and in the implementation of national and local plans (Article 11). But the obligation is made more precise in the following Article 12, which provides for co-operation concerning transboundary waters, listing different forms of promoting joint and co-ordinated international action, and Article 14, which provides for international support for the action required at the national and local levels.

Co-operation at the local level is mainly carried out between the local administration or government and its communities. This raises the question of public participation.[7] International and domestic law play a fundamental rôle in promoting communities' participation in decisions concerning the whole basin. International law, through treaties,[8] and resulting or parallel domestic legislation may foster public participation and local government participation in the decision-making at different levels. A good example is that of projects of dam construction. In these cases, affected peoples' groups may put forward their views and concerns and be actively involved in the decision-making process. This practice is not yet widespread and may sometimes be quite complex, frequently featuring opposing political views, as may be illustrated by the Narmada project case in India.[9]

5.1.3 The Participant Criterion

Generally speaking, there are three main levels of co-operation.

At the principal level lies **inter-state co-operation**. This is the traditional paradigm of co-operation under international law over international water resources. Co-operative action is developed through diplomatic relations and is given effect in treaties and other forms of state practice at bilateral or

[7] The principle of public participation and access to information and justice has been affirmed, e.g. by the ILA in the 2002 New Delhi Declaration of Principles of International Law Relating to Sustainable Development, which considers its application instrumental in pursuing the objective of sustainable development in an effective way.

[8] E.g. the 1998 Aarhus Convention.

[9] On the controversy the project has generated internally and abroad, see, e.g. McCully (2001), 299-306, Vyas (2001), or Biswas and Tortajada (2001).

multilateral level. It may be based on communications between national institutions, or it may be given an independent institutional form, such as a river basin commission or river authority. It may also be developed through international inter-governmental conferences where international organizations may participate.

A further level of co-operation is developed by **international inter-governmental organizations**. This level is to some extent external to the State, and has increased in importance in recent decades. As the number of international organizations increases, so does the number of organizations having international water-related problems on their agenda. International organizations or agencies, such as UNEP, UNDP, UNESCO, or the Organization for Security and Co-operation in Europe (OSCE), tend to extend their competences and functions in this field. As knowledge and awareness of the current global water resources situation increases, international organizations have been devoting themselves to the topic with diverse objectives. These range from assessment of resources and capacity-building to security issues and the financing of water projects.[10]

Co-operation also develops at the **intra-state level**, through national and transnational entities. This includes public participation in national decision-making, in particular on specific environmental matters and policies.

Civil society, particularly local communities and water users' associations may also contribute to solving their own water problems, such as the lack of water supply or sanitation, through community groups. These express the views of the community or of the associations and bring them to the attention of local governments, and take initiatives, usually supported by NGOs.

Non-governmental organizations have also been focusing on water resources' problems and their number has rapidly increased in the past two decades. This strengthens civil society and regional co-operation, since they provide a means for organized citizen participation in decision-making processes which concern them, as well as promote pluralism by conducting the interests of different cultural and ethnic identities. Their number is indicative of the involvement of

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[10] For the rôle played by international organizations in water-related matters, see *infra* s.5.3.

civil society and they are now an important part of the foundations of democratic societies. Whether national or international, their rôle has directed the attention of governments on water problems and has provided guidance, capacity-building, and help in solving concrete problems, be they of a legal, strategic, or technical nature. A good example is the work of WaterAid, an international NGO established in 1981 as a registered charity in the UK. WaterAid dedicates exclusively to the provision of domestic water, sanitation and hygiene education to the world's poorest people.[11] It works with local partner organizations to help local communities build and maintain water and sanitation projects.

National and multinational corporations have also been dedicating themselves to water issues, mainly by providing financial support to NGOs or to specific local water projects.

Last, but certainly not least, the work of **scholarly associations** has been crucial to the development of the law and policies on international water resources. Particular reference should be made to the IDI and the ILA, composed of international law experts, which brought together different perspectives from varying national legal systems. In the ILA's own words:

> Indeed, in today's world this principle [of co-operation] does no longer exclusively relate to States, but also applies to international institutions, civil society and the business community. . .[12]

5.1.4 The Temporal Criterion

Co-operative action may be required for a **limited period of time**, for example, for a specific project governed by a detailed agreement, such as flood prevention works, or for the provision of relevant information in emergencies; or for the establishment of a **long-term relationship**, usually regulated by agreement and often involving the establishment of a joint body.

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[11] Currently, WaterAid has programmes in 17 countries in Africa and Asia. See generally their website at http://www.wateraid.org

[12] The 2002 ILA Report on the Legal Aspects of Sustainable Development, 7.

Although treaty-based co-operation continues to exist for sporadic or specific purposes,[13] the clear trend, as treaties tend to become more comprehensive in scope,[14] is to provide for a stable and long-term relationship for the management of the geographical area concerned, whether this consists of one or more river basins or parts thereof.[15]

5.1.5 The Activity Criterion

The general obligation to co-operate may be manifested in many different ways as the basis of state action, and may easily be identified in some concrete applications. But it may also be implied in other obligations. The different applications of co-operation, as duties of action, are, generally speaking, contained in international treaties both expressly and implicitly, and in both mandatory and soft law terms. The terms used include the obligation to 'promote' or 'seek to promote' or 'promote and facilitate' or 'stimulate and advance' the conduct of an activity; or to 'establish' or 'promote the establishment' or 'strengthen' an institution or régime; or to 'take effective or necessary measures' to implement a specific course of action.

Co-operation may be of a technical, educational, economic, financial, administrative, legal or political nature. It also covers a wide spectrum of activities, such as planning, development, regulation, management, environmental protection, use and conservation and forecasting.

Procedural co-operation may take a number of forms depending on the activity performed. The most common modalities reflecting increasing levels of co-operation are as follows.[16]

Collection of Data. Exchange of Data and Information.[17]

Notification of Planned Measures.[18]

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[13] E.g. the 1996 Ganges Waters Treaty, which concerns the sharing of waters at Farakka Dam.

[14] See *supra* s.3.2.5.

[15] E.g. the 1998 Luso-Spanish Agreement, which concerns all shared river basins.

[16] Partially based on Savenije and van der Zaag (2000), 34-5.

[17] For an examination of this obligation and examples, see *supra* s.4.2.

Requests and Notification of Impact Assessments.[19]

Notification of Emergencies and Warning Systems.[20]

Consultations.[21]

Negotiations.[22]

Transfer of Technology/Know-how/Capacity-building/Legal Matters. These activities include the exchange of best available technology,[23] the exchange of scientific and technical information and of experience and research results, and the provision of technical assistance in different water-related matters.[24] They naturally involve forms of human resources development, such as joint education and training schemes,[25] and the organization of conferences, symposia, seminars, courses, discussions at the academic level. Capacity-building is one of the elements of successful treaty implementation, as it promotes the balance of capabilities to manage water resources among riparians. Thus, regional differences may become a driving force for co-operation, not only between government departments but also between educational institutions.

Co-operation may also be offered for the elaboration of national legislation, including standards, procedures and institutional structures, and as assistance to the implementation of international standards.

Joint Projects of Research and Development. A further step from the previous form of co-operation, joint projects of research and development[26] are prepared and carried out when an underlying relationship has already been

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[18] See *supra* s.4.3.

[19] See *supra* s.4.3.2.

[20] See *supra* s.4.3.3.

[21] See *supra* s.4.4.

[22] See *supra* s.4.5.

[23] E.g. Article 13(4) of the 1992 Helsinki Watercourses Convention and Article XIX of the 2003 Revised African Convention.

[24] These may include desertification control, weather modification and desalination.

[25] E.g. Article XX of the 2003 Revised African Convention.

[26] E.g. Articles 5 and 12 of the 1992 Helsinki Watercourses Convention.

developed in the educational or technical areas. These may also encompass the preparation of surveys, investigations,[27] joint scientific studies and assessments[28] on a variety of topics related to river basin management. Such activities may be better developed in a network of institutions comprising universities, NGOs, international organizations and relevant government departments.

Joint Projects of Monitoring and Compliance. These joint projects serve to implement treaties and other regulations,[29] and usually include joint programmes for monitoring the conditions of the transboundary waters and assessment of any transboundary impact.[30] They are normally carried out through joint commissions.

Financial Support. The costs of several activities are to be borne jointly and on an equitable basis by basin States co-operating[31] or by a requesting State if the activity is performed at its request, unless otherwise agreed.[32] But for major projects, such as the construction and operation of large dams, financial support from third States, whether riparian or not, and from development banks and agencies is often necessary, usually in the form of syndicated loans. Co-operation is here viewed as a 'basic element in an effort to overcome major constraints such as the lack of capital and trained manpower as well as the exigencies of natural resource development'.[33]

Joint Ventures. These projects – developed by two or more States – include the construction and operation of dams and hydroelectric power plants.[34] They include the preparation of feasibility reports, and impact assessment studies.

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[27] E.g. Article 3 of the 1972 ILA Articles on Flood Control.

[28] Principle 8 of the 1978 UNEP Principles on Shared Natural Resources

[29] E.g. Article XVI(2)(b) of the 1968 African Convention and Article XIV(2)(b) of its 2003 revised version, and Article 66 of the 2004 ILA Berlin Rules on compliance review.

[30] E.g. Article 11 of the 1992 Helsinki Watercourses Convention.

[31] E.g. Article 25(2) of the 1997 UN Watercourses Convention regarding regulation works.

[32] E.g. Article 6 of the 1972 ILA Articles on Flood Control, and Article 9(2) of the 1997 UN Watercourses Convention.

[33] Recommendation 85 of the 1977 Mar del Plata Action Plan. See also Principle 7 of the 1992 Rio Declaration.

[34] E.g. the Lesotho Highlands project; the Kariba dam, in the Kariba Gorge of the Zambezi River on the Zambia-Zimbabwe border; or the Itaipú dam, in the stretch of the frontier between Brazil and Paraguay in the Paraná River.

Joint Development Plans. The preparation and execution of joint river basin development plans, including compatible strategies for water conservation and for the protection of the environment, have the advantage of being more effective than those prepared by States individually. They may also require the revision of domestic policies and legislation for the purposes of harmonization.[35] Operational rules for large dams may be jointly prepared when these may impact on more than one riparian State. Joint action plans may also be prepared for joint water use, management, water pricing, or interbasin water transfer. In an optimal utilisation perspective, such form of co-operation is implemented within the river basin as a whole and using an integrated management approach.[36]

Institutional Mechanisms and Joint Commissions. The different institutional mechanisms adopted, or commissions created, through which the other modalities of co-operation are implemented, reflect the existing level of co-operation between States. Through these regular communication between States may be maintained, as well as the monitoring and supervision of any other co-operative action.

5.2 The Variety of International Institutional Arrangements

Most of the forms of co-operation referred to above are applied by some institutional mechanism or through a specific commission.[37] The relations between basin States may be based on institutional mechanisms of varied type, established through their respective competent ministries, national water resources administration organs or councils, or other domestic competent institutions designated as having ultimate responsibility over water resources.[38] The maintaining of formal communications between governments does require that at the domestic level a structure is prepared to deal with these issues.

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[35] See Article 62 of the 2004 ILA Berlin Rules.

[36] See, e.g. Article 6 of the 2004 ILA Berlin Rules.

[37] See generally Caponera (1992) on national and international institutions on Chapters 9 and 12, respectively. For a review of 19 international river commissions, see Burchi and Spreij (2003).

[38] Salman and Bradlow (2006), 152.

These relations may also be developed through joint institutions, sometimes named commissions or authorities, created by treaty, with different powers and functions, whether of a technical, economic and financial, legal and administrative nature.

Joint commissions may have an *ad hoc* character or be established on a permanent basis,[39] and may consist of one or more bodies. Most commissions are composed of technical experts appointed in equal number by each State. But they may also include legal advisers or even government ministers. For example, the Mekong River Commission (MRC), established by the 1995 Mekong River Agreement, is an intergovernmental organization composed of the lower Mekong riparians.[40] The MRC has three permanent bodies:[41] the Council, composed of one cabinet minister from each member State; the Joint Committee, composed of one senior government official from each State; and the Secretariat, headed by the Chief Executive Officer appointed by the Council, with over 125 staff. Each member State has established under national legislation a National Mekong Committee (NMC) in order to co-ordinate local activities with those of the MRC and to help in implementing them.

The powers and functions of joint bodies may vary from case to case and depend on various factors, such as the kind of co-operation envisaged, the desired degree of involvement in international management, or the specific field of the administration. First of all, joint institutions serve as a channel to maintain formal communications and provide a forum for dialogue between States. This is fundamental to maintain good neighbourly relations and to prevent and settle disputes. Thus, the exchange of all data and information, notifications and consultations are usually carried out through existing joint commissions, as well as any joint project on scientific or technical research and development or mutual assistance. Most joint commissions have powers to examine, investigate and in some cases even to resolve problems arising from treaty implementation. They provide a forum where different views are expressed and may be reconciled before a dispute arises requiring negotiation at a higher level or third-party intervention. In addition, joint institutions may be responsible for the establishment of observation stations; for advisory and

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[39] See the 1994 ILC Report, 126, paras.4 and 5.

[40] See generally, the MRC website at http://www.mrcmekong.org/

[41] See Article 12 of the 1995 Mekong River Agreement.

consultative functions, such as the evaluation of projects and the issuing of recommendations; and for co-ordinating or policy-making advice. They may be charged with the preparation and execution of projects, and the establishment of harmonized standards; and they may have monitoring functions, such as the investigation of States' compliance with the treaty.

The establishment of joint commissions was recommended as early as 1911 by the IDI.[42] It was followed by a number of other resolutions by the IDI[43] and the ILA.[44] Of particular relevance are the 1976 ILA Articles on International Water Resources Administration adopted at the Madrid session, which included an annex with 'Guidelines for the Establishment of an International Water Resources Administration'.[45] The need for institutional arrangements was justified in these terms:

> Since diplomatic negotiations are often not sufficient for an effective implementation and for an adequate control of the various activities involved, such a co-operation may reasonably take place only through the institutionalisation of some form of administrative machinery.[46]

In addition, several international organizations[47] and conferences[48] also concluded that international river and lake organizations are the 'appropriate bodies for initiating studies and recommending measures, contingency plans and warning systems, as well as for conducting the necessary ongoing review of conditions and the adequacy of measures undertaken.'[49]

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[42] Principle II.7 of the 1911 IDI Madrid Resolution.

[43] E.g. the 1961 IDI Salzburg Resolution, Article 9; and the 1979 IDI Athens Resolution on Pollution, Article VII(g).

[44] E.g. the 1982 ILA Montreal Rules on Water Pollution, Article 7. These provisions have the character of recommendations.

[45] This Resolution also includes a List of Agreements setting up a Joint Machinery for International Drainage Basin Water Resources Management prepared by Rapporteur Dr. Dante Caponera. See also Articles 64 and 65 of the 2004 ILA Berlin Rules.

[46] The 1976 ILA Madrid Articles on Administration, 249.

[47] E.g. the Council of Europe, Recommendation 436 (1965), or the UNECE Committee on Water Problems, 1971, UN Doc.E/ECE/Water/9, Annex II; Principle 2 of the 1978 UNEP Principles on Shared Natural Resources. See UN (1975), and the survey included in the 1998 UNECE Berlin Recommendations on Transboundary Water Management.

[48] Such as the 1972 Stockholm Action Plan for the Human Environment, Recommendation 51; the 1977 Mar del Plata Action Plan, Recommendation 84, and Resolutions VII and VIII; and the 1981 UN Interregional Meeting of International River Organizations.

[49] Conclusion 5, UN (1983), para.49.

There is extensive treaty practice concerning institutional mechanisms or joint commissions.[50] Indeed, the earliest form of international organization was the Commission for Navigation in the Rhine established in 1815 with power to regulate navigation and to settle disputes.[51]

Relevant to the establishment of recent joint institutions is the 1992 Helsinki Watercourses Convention. Article 9(2) provides a clear obligation for co-riparian States to establish joint bodies by agreement, where all consultations are to be conducted (Article 10). A 'joint body' is defined as any bilateral or multilateral commission or other appropriate institutional arrangement for co-operation between riparian parties. Article 9(2) comprises a non-exhaustive list of functions of joint bodies. This reads as follows:

(a) To collect, compile and evaluate data in order to identify pollution sources likely to cause transboundary impact;
(b) To elaborate joint monitoring programmes concerning water quality and quantity;
(c) To draw up inventories and exchange information on the pollution sources mentioned in paragraph 2(a) of this article;
(d) To elaborate emission limits for waste water and evaluate the effectiveness of control programmes;
(e) To elaborate joint water quality objectives and criteria having regard to the provisions of Article 3, paragraph 3 of this Convention, and to propose relevant measures for maintaining and, where necessary, improving the existing water quality;
(f) To develop concerted action programmes for the reduction of pollution loads from both point sources (e.g. municipal and industrial sources) and diffuse sources (particularly from agriculture);
(g) To establish warning and alarm procedures;
(h) To serve as a forum for the exchange of information on existing and planned uses of water and related installations that are likely to cause transboundary impact;
(i) To promote co-operation and exchange of information on the best available technology in accordance with the provisions of Article 13 of this Convention, as well as to encourage co-operation in scientific research programmes;
(j) To participate in the implementation of environmental impact assessment relating to transboundary water, in accordance with appropriate international regulations.

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[50] For a list of joint bodies in Europe and North America, see the UNECE's website at http://www.unece.org/env/water/partnership/part63.htm (last visited on 15.1.2007).

[51] 1815 Final Act of the Congress of Vienna. For some examples of joint mechanisms, see the 1994 ILC Report, 126, paras.389-90 and the references therein. See also the list of agreements in the 1976 ILA Madrid Articles on Administration.

The 1997 UN Watercourses Convention on the other hand does not provide for compulsory institutional co-operation. Article 8(2), on the general obligation to co-operate, and Article 24(1), specifically on management, provide respectively that 'watercourse States *may consider* the establishment of joint mechanisms or commissions' and '*may include* the establishment of a joint management mechanism'.[52] These articles avoid legally binding language. The non-compulsory character of the provisions is explained by the fact that some States were not willing to be under an obligation *de contrahendo*, that is, under the obligation to negotiate and reach a definite agreement on the matter.[53]

Although mentioning in Article 8(2) that States should use the 'experience gained through co-operation in existing joint mechanisms and commissions in various regions', the Convention falls short of providing a list, even non-exhaustive, of possible functions for the institutional mechanisms to be established.[54]

In a comparative analysis of these two framework conventions, Tanzi asserts that since the 1992 Helsinki Watercourses Convention plays a complementary rôle to the 1997 UN Watercourses Convention in many different areas, here it could provide 'exemplary terms of reference for a constructive interpretation of Articles 8(2) and 24',[55] notably through its list of joint bodies' functions. In addition, Tanzi justifies the lack of a notification procedure in the 1992 Helsinki Watercourses Convention by the fact that this Convention provides a stronger obligation to enter into agreements to establish joint institutional mechanisms. The functions of these mechanisms may include 'the exchange of information on existing and planned uses of water and related installations that are likely to cause transboundary impact' and the participation 'in the implementation of environmental impact assessment relating to transboundary water'.[56] It may be argued, however, that the potential problems the notification procedure tries to prevent may still exist. For instance, the planning State may commence the implementation of its proposed activities before the potentially

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[52] Italics supplied.

[53] See Tanzi and Arcari (2001), 186.

[54] Tanzi and Arcari (2001), 188; Sohnle (2002), 333-4.

[55] Tanzi (2000), 33.

[56] Article 9(h) and (j).

affected State had been informed of the proposed measures or had time to consider all the potential effects on its territory. Conversely, an unreasonable delay may occur in the implementation of the planned measures due to the failure of the potentially affected State to react to the information on new uses or due to a deadlock during negotiations where the parties fail to agree on the proposed project. This raises the question of how helpful joint arrangements really are in the event that no rules are established relating to procedural duties.

The ICJ has pronounced in favour of joint management institutions in the *Gabčíkovo-Nagymaros Project case.*[57] Although in the context of a specific treaty régime, the Court ordered the parties to resume negotiations and to re-establish the joint régime which 'also reflect in an optimal way the concept of common utilisation of shared water resources for the achievement of the several objectives mentioned in the Treaty, in concordance with Article 5(2)'[58] of the 1997 UN Watercourses Convention. It may be recalled that the Court in its decision relied on the Convention as 'evidence' of the development of international law.[59]

Most authors agree that there is no legal requirement to establish joint institutional mechanisms or bodies. Although state practice clearly shows actual conclusion of agreements in this matter, and although there may arguably be some evidence of *opinio juris*,[60] it cannot be asserted with confidence that there is a duty to co-operate through joint institutions which reflects customary law.[61] This is mirrored in the contrasting texts of the 1992 Helsinki Watercourses Convention, which provides for the conclusion of additional agreements and a specific obligation for co-riparian States to establish joint bodies by agreement and the 1997 UN Watercourses Convention, which does not require the establishment of joint institutions. In

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[57] Benvenisti (2002), 184.

[58] (Hungary/Slovakia), ICJ Reports (1997), 7, para.147.

[59] For an analysis of this case, see *supra* s.3.2.6.5.

[60] Caflisch (1989), 204, considers that the negotiation of agreements to establish joint institutional arrangements may be deemed by States to be obligatory on the basis of the principle of the community of interests.

[61] Benvenisti (1996), 413; See also Perrez (2000), 317; the 1994 ILC Report, 125, para.2; Birnie and Boyle (2003), 305; and the commentary to Article 64 of the 2004 ILA Berlin Rules.

fact, co-operation in joint management institutions was described by ILC's Special Rapporteur Evensen as a 'principle of progressive international law'.[62]

In some instances the establishment of some sort of institutional mechanism or joint body might not be considered sufficient by the riparians to deal with transboundary water resources. Hence, States might require the supervisory assistance of international organizations for this purpose.[63] This may be illustrated by the 1987 Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System (ZACPLAN), which provides for the financial support of a number of international organizations, but also requests their assistance in implementing the Plan.[64]

5.3 The Rôle of International Organisations

International organizations have been involved with international water resources matters in many different ways. These organizations, whether regional or global, intergovernmental or non-governmental, have contributed to preventing conflict. Their general aim is to promote co-operation in order to optimize the resources and share the benefits between States and at the same time to prevent, mitigate or resolve conflicts. But their particular rôle may vary between that of being a source of expertise, or an administrator, to that of a facilitator or mediator. Among their functions, one of the most important is 'to provide its members with a forum for consultation and negotiations in actual or potential dispute situations.'[65]

5.3.1 Recognition of its Importance

The rôle of international organizations in promoting co-operation between States concerning water resources is recognized in several international studies

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[62] *Yrbk ILC* [1984], Vol. II, Pt.1, 112, para.59.

[63] See 1992 Agenda 21, Chs.18 and 38.

[64] The request is addressed in Article 4(2) to UNEP, but the co-operation of a number of organizations of the UN System is acknowledged in the Preamble, para.4, in Annex I, paras.4 and 6, and in Annex II, I, para.7 and II, para.21.

[65] Merrils (1998), 266.

and instruments. Examples include recommendation 85 of the 1977 Mar del Plata Action Plan, or Article 10(2) on the general principle of co-operation included in the 1984 ILC Special Rapporteur Evensen's Second Report.[66] Nevertheless, no express reference to international organizations was included in the 1994 ILC Draft Convention. Hence, in contrast to the 1982 UNCLOS,[67] the 1997 UN Watercourses Convention does not require or even refer to the possible participation of international organizations when it provides that States should co-operate in the conclusion of further bilateral and multilateral agreements (Article 3(5)).[68] More recently, however, the ILC has inserted an explicit reference to the potential assistance of international organizations in Article 4 of the 2001 ILC Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, which lays down an obligation to co-operate. This Article, however, does not create any obligation for an international organization to respond to requests for assistance even from Member States unless this is required by its constitutional document.

The importance of the rôle of international organizations in promoting co-operation has also been asserted in international decisions. For instance, in the *Gabčíkovo-Nagymaros Project* case, the ICJ explicitly recognized the importance that a third party can play in the peaceful settlement of international disputes. In respect of the provision of assistance by the Commission of the European Communities in the dispute, the Court declared that 'both Parties can profit from the assistance and expertise of a third party. The readiness of the Parties to accept such assistance would be evidence of the good faith with which they conduct bilateral negotiations in order to give effect to the Judgment of the Court.'[69]

Certain material circumstances call for the intervention of international organizations to foster co-operation. One case relates to the exceptional circumstances where no direct contact between the States exists,[70] which may

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[66] At 113. Other examples are the Report of the Panel of Experts on the Legal and Institutional Aspects of International Water Resources Development, UN (1975), 119-143; and Ch.18, Agenda 21, 1992, paras.18.12/27/40/50/59/76/85.

[67] See, e.g. Article 243 in relation to marine scientific research.

[68] Contrary to the 1997 UN Watercourses Convention, the 2004 ILA Berlin Rules have made several references to the rôle of international organizations in transboundary rivers' management. See, e.g. Article 58(1) on consultations.

[69] Para.143. See also para.113.

[70] See also Principle 6(2) of 1978 UNEP Principles on Shared Natural Resources.

be the result of armed conflict, non-recognition, or the absence of diplomatic relations. The ILC considered that this issue would be best dealt with by a clause specifically providing for indirect procedures. In consequence, with the contribution of the World Bank,[71] Article 30 of the 1997 UN Watercourses Convention was drafted. In cases such as those, States have the obligation to fulfil the obligation to co-operate through any indirect procedure, for example, through third States, usually those protecting their interests under the procedures set out in Articles 45 and 46 of the 1961 Vienna Convention on Diplomatic Relations, peace commissions, or the good offices of an international organization.[72]

Another form of co-operative action involving international organizations includes enlisting their political and financial support for specific projects. But it is through standard-setting and policy-making that international organizations have become best known, thus contributing to the development of water law. An obvious example is the work produced by UNEP, which includes the often cited 1978 UNEP Principles on Shared Natural Resources. In addition, international organizations also act with varying degrees of success as mediators in dispute settlement.

5.3.2 Paradigmatic Cases of Success and Failure

The paradigmatic cases of success and failure of international organizations in dealing with international water issues distinct from their main functions have been persistently reported by the media and have been the subject of different analyses.

One of the most well-known cases led to the 1960 Indus Waters Treaty, which is generally regarded as a success story of conflict resolution.[73] The World Bank, which finances every year a number of projects on international watercourses, assumed the rôle of international mediator in the dispute between India and Pakistan regarding the Indus River basin. After a long

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[71] This is based on the practice of the World Bank regarding notification of planned works to other co-riparians. See *supra* s.4.3.1.6.

[72] The 1994 ILC Report, 132.

[73] On the 1960 Indus Water Treaty case, see, e.g. Pitman (1998), Salman and Uprety (2002), Ch.2, and Salman (2003).

process of negotiations, the parties accepted a proposal by the World Bank involving concessions on both sides. This led to the conclusion of the 1960 Indus Waters Treaty, a complex instrument, the main purpose of which was to increase the quantity of water available to the two States and to apportion the water resources of the Indus equitably between them. However, after this success, and although it generated high expectations in the international community regarding its potential rôle as mediator, the Bank has been directly involved only in a few international water cases.

But there are other cases of successful mediation involving other organizations. For instance, the rôle played by UNDP in the negotiation process of the 1995 Mekong River Agreement,[74] or the involvement of UNEP in the elaboration and implementation of the Zambezi Action Plan included in the 1987 ZACPLAN.[75]

Other cases, however, may be considered failures. This may be illustrated by the history of the dispute between India and Bangladesh over the use of the water resources of the Ganges River.[76] Although the two States concluded in 1996 a Treaty, valid for 30 years, to share the waters of the Ganges River at the Farakka dam (barrage), the previous attempts by the World Bank to mediate had been unsuccessful. For over two decades, the dispute over India's unilateral withdrawal of water from the Ganges was considered in different fora. Further to bilateral consultations and negotiations, which led to one agreement in 1977 and two Memoranda of Understanding in 1982 and 1985, the matter was also taken to the UNGA. But even after the General Assembly adopted a statement in November 1976[77] leading to a series of ministerial-level talks, the dispute continued.

After examining these cases, Nakayama concludes that international organizations have had little success as mediators. He identifies three critical conditions or prerequisites for a successful involvement of an international organization: (1) the willingness of the riparian States to co-operate, (2) the involvement of decision-makers at the highest level of the basin countries, and

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[74] See, e.g. Nakayama (1997), 370-3.

[75] Notwithstanding the difficulties to actually implement it. See *infra* s.5.4.

[76] See Nakayama (1997), 376-9. For a different view, see Salman and Uprety (2002). See *supra* s.1.4.3.

[77] *GAOR*, 31st Session, 8th Meeting, November 1976, 121, 26.

(3) neutrality as a third party with financial assistance used both as 'stick and carrot'.[78]

5.3.3 Examples of Increasing Levels of Co-operation

As the international community has become more aware of the problems relating to fresh water and its implications for the future of the world population and the environment, the number of organizations and their mechanisms promoting co-operation in the field of water resources has significantly increased, and their rôle continues to grow, both in scope and intensity.[79]

5.3.3.1 International Organizations

There are many international organizations, both intergovernmental and non-governmental, which have been contributing to the strengthening of co-operation. Besides UN Agencies, such as UNESCO, UNEP, UNDP, FAO, or the World Bank, both regional intergovernmental organizations, such the EU, and the SADC, and non-governmental, such as Green Cross International, have played an important rôle.

This is the case, for instance, of the **Organization for Security and Co-operation in Europe (OSCE)**, the world's largest regional security organization, which has also an active rôle in promoting co-operation. The comprehensive approach with which the OSCE views security is directly related to its co-operative approach to solving problems, for instance, by requiring consensus for its decisions.[80]

In 2002, OSCE participating States selected water management as a topic for its Economic Forum, and since then water has occupied a prominent place on its agenda. Several events had their focus on the issues related to water and security, and OSCE policy was discussed there as well as the planning of

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[78] Nakayama (1997), 379-81.

[79] See generally Salman (2003a) and (2004).

[80] Its decisions are politically but not legally binding. It is the most important organization in Europe with mechanisms for early warning, conflict prevention, crisis management and post-conflict rehabilitation in its region.

different water-related projects.[81] This was a recognition by States that environmental security, one of the various dimensions of security (politico-military, economic, human), is closely connected with water quality and access to water and that environmental activities are crucial elements of the organization's 'comprehensive approach to security'. The potential rôle of the OSCE was discussed and identified in its economic and environmental dimension in promoting greater co-operation on sustainable water management, in identifying and addressing security risks, and, thus, in all phases of the conflict cycle, i.e., from enhancing its early warning and conflict prevention capacity, to crisis management and post-conflict rehabilitation.[82] The OSCE is now directly engaged in a number of projects which contribute to confidence-building and co-operation throughout the OSCE area.[83]

In addition, several organizations were created recently specifically for dealing with water-related issues. These include the World Water Council and WaterAid.[84]

The **World Water Council (WWC)** is an international think-tank established in 1996 through the initiative of water specialists, the academic community and other international organizations in response to an increasing concern of the international community about water issues. The WWC has conceptualised the World Water Forum (WWF), an international platform for debate, in order to raise awareness about water problems not only at the highest political levels but also for the society in general. The WWF have been jointly organized by the WWC and the respective host country.[85]

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[81] E.g. the project where OSCE rehabilitates a water canal in exchange for weapons handed over in the Georgian-Ossetian zone of conflict.

[82] See generally http://www.osce.org/eea/

[83] For example, the OSCE Centre in Almaty, the UNECE and the UN/ESCAP have jointly assisted on the establishment of a Kazakhstani-Kyrgyztani water commission for the Chu and Talas Rivers in accordance with the terms of their 2000 Agreement. The project, initiated with assistance from international organizations, enhances co-operation between Kazakhstan and Kyrgyzstan on river issues, and may serve as a model of successful establishing of co-operation in the region. It also contributes to promote the principles of the 1992 Helsinki Watercourses Convention in Central Asia and facilitates the accession to it of regional States. On the subject, see UNECE *et al.* (2003), the outcome of a joint project carried out by UNECE, UNEP/Regional Office for Europe, the Ministry for Natural Resources of the Russian Federation, the Swedish Environmental Protection Agency and the Agency for Environmental Assessment 'Ecoterra'.

[84] See *supra* s.5.2.3.

[85] The First WWF took place in Marrakech, Morocco, in 1997; the Second WWF in The Hague, The Netherlands, in 2000; the Third WWF in Yodo River Basin, Japan, in 2003; the Fourth WWF in Mexico City, Mexico, in 2006; and the Fifth WWF will take place in Istanbul, Turkey, in 2009.

After regional and sectoral consultations, the WWC developed a *World Water Vision*[86] so as to build consensus among all relevant actors in the prevention of further water crises. The *World Water Vision*, which was presented at the 2000 Second WWF in the Hague, is the product of a comprehensive analysis of the world's water resources based on contributions from experts involved in regional, national, and sector consultations, and thus provides an authoritative diagnosis of water resources and makes recommendations based on a vision of a better future.

As to UN agencies, the work of **UNESCO** is of particular relevance. Since 1975, the **International Hydrological Programme (IHP)**[87] is UNESCO/Division of Water Sciences' international scientific co-operative programme in water research, water resources management, education and capacity-building. Its principal aim is to establish the scientific and technological bases for the rational management of water resources in relation to water quantity and quality. Among its more specific objectives is the development of techniques, methodologies and approaches for hydrological studies, the assessment of the sustainable development of water resources, and the promotion of research, training and education in the water sciences, especially integrating developing States. It also serves as a platform for increasing awareness of global water issues and acts as a catalyst to encourage co-operation and dialogue in water science and management, both locally and globally.

UNESCO participates in, and co-ordinates, different partnerships, alliances and other co-operative mechanisms so as to promote its activities at international, regional and national levels. Further to the IHP, UNESCO's **World Water Assessment Programme (WWAP)**,[88] serves as co-ordinator of other UN initiatives related to fresh water, i.e., the recently created UN-Water.[89] One of its goals is to provide a continuing global assessment of the state and trends of the world's freshwater resources and their use. For this purpose, it published the first *UN World Water Development Report: Water for People –*

For information on the WWF, see generally the World Water Council website at http://www.worldwatercouncil.org/

[86] Cosgrove and Rijsberman (2000).

[87] See their website at www.unesco.org/water/ihp/

[88] See generally the WWAP's website at http://www.unesco.org/water/wwap/index.html

[89] See *infra* s.5.3.4.

Water for Life (WWDR) in 2003, and the second *Water, a Shared Responsibility* (WWDR2) in March 2006.

Within the WWAP, the programme **From Potential Conflict to Co-operation Potential (PC>CP)** on the prevention and resolution of water-related conflicts is of particular importance.[90] This programme produced a report presented at the 2003 Third WWF in Kyoto, the *Water Security and Peace Report: a Synthesis of Studies Prepared Under the PCCP-Water for Peace Process*,[91] the main result of the joint participation of different institutions besides UNESCO, such as Green Cross International and other NGOs, as well as the participation of the academic and scientific communities.

5.3.3.2 International Partnerships and Joint Mechanisms and Programmes

In addition to their own individual activities, international organizations have also established partnerships and created joint mechanisms and programmes.

A good example is that of the **Global Water Partnership (GWP)**.[92] This international network was established in 1996 by the World Bank, UNDP, and the Swedish International Development Agency, and includes a wide variety of participants, from government institutions and UN agencies to private companies, as well as NGOs and multilateral development banks. Its mission is to support States in the sustainable management of their water resources by promoting and implementing integrated water resources management.

Another example is that of the **Global Environment Facility (GEF)**.[93] This is a financial mechanism created for the improvement of the global environment.[94] It was launched in 1994 by the World Bank, UNDP and UNEP in order to foster co-operation and to finance activities concerning different areas related to the environment such as biodiversity loss, climate change, ozone depletion, land degradation, persistent organic pollutants and international waters. GEF is

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[90] For the PCCP, see, e.g. http://www.unesco.org/water/wwap/pccp/pdf/brochure_2.pdf (last visited on 30.10.2007).

[91] Edited by Cosgrove (2003). See also http://www.unesco.org/water/wwap/

[92] See generally its website at http://www.gwpforum.org.

[93] See generally its website at http://www.gefweb.org/

[94] On the impact of GEF, see Sand (1996).

chosen for projects which are developed and carried out through public and private partnerships with UNDP, UNEP and the World Bank as GEF Implementing Agencies,[95] thus playing fundamental rôles in this capacity, and regional development banks and other UN agencies, such as FAO, IFAD or UNIDO. Since it was created, GEF has been involved in over 100 water-related projects,[96] not only at national level, but also at the regional and global levels. Many of the projects being financed have quite comprehensive goals, such as the integrated management of a basin,[97] involving a number of different activities, and most of them aim at implementing existing agreements.[98]

Another good illustration is the **Global International Waters Assessment (GIWA)**,[99] created in 1999 and led by UNEP. It is funded to approximately 50 per cent by GEF, and aims to produce a comprehensive and integrated global assessment of international waters, comprising marine, coastal and surface freshwater areas, as well as groundwaters. In addition, it analyses the ecological status of and the causes of current problems in numerous transboundary water areas. It then develops scenarios of the future condition of the world's water resources and it analyzes policy options. With this analysis it provides scientific advice to decision-makers and managers concerned with water resources in order to tackle the problems and threats detected. The comprehensive strategic assessment thus developed may be used by GEF and its partners to identify priorities areas and problems in need of remedial or mitigating actions at national, regional or global levels. GIWA has created a global network by establishing co-operative links with relevant bodies, comprising exchange of data and information, co-ordination of programmes, joint activities, etc.

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[95] See http://www.undp.org/gef/, http://www.unep.org/gef, and http://www.worldbank/gef

[96] Water projects are divided into three categories: water bodies; integrated land and water projects; and contaminants.

For a list of GEF's projects on international watercourses, see http://www.gefweb.org/meetings/WaterForum/International%20Waters.pdf (last visited on 30.10.2007) or search http://www.gefonline.org

[97] For example, the project for the Joint Integrated Development of the Maputo Basin.

[98] E.g. the project on the Environmental Protection and Sustainable Management of the Okavango River Basin, which assists on the implementation of the 1994 OKAKOM Agreement concluded between Angola, Botswana and Namibia.

For a review of GEF's contribution to the implementation of water-related agreements and its international water programme, see Merla (2002).

[99] See generally its website at http://www.giwa.net/

The OSCE, UNDP and UNEP joined efforts to create the **Environment and Security (ENVSEC) Initiative** in autumn 2002.[100] The aim of the initiative is to promote sustainable resource management and environmental cooperation to reduce insecurity in Central Asia, the Caucasus and South-Eastern Europe. Its most important goal is to identify environmental issues that have the potential to threaten security, and to develop activities that may deal with these issues and thus promote stability.

5.3.4 The Need for Co-ordinated Action

What are the advantages of such rapid development in the number of international organizations dealing with water resource issues? Debates, for instance, on dams and the proper rôle of the private sector continue. And so does the adoption of new resolutions and declarations of different inter-governmental conferences, displaying in vague language good intentions, including the continuous mention of the need for co-operation in shared water resources. But they reflect 'a clear inability to reach an agreement' on the important issues, evidencing the lack of political will in this matter, illustrated by the non-ratification of the 1997 UN Watercourses Convention. The results achieved so far undoubtedly show progress. Concerns have, however, been expressed regarding the need for co-ordination between the different organizations and agencies working on water-related matters, in order, for instance, to avoid duplication of work.[101] Moreover, the lack, until recently, of a general international water resources assessment has been a serious obstacle to the implementation of different action plans as it was difficult to identify throughout the world priority areas for intervention.

In order to solve this problem the UN created UN-Water in 2003, an interagency mechanism that promotes coherence and co-ordination of actions from UN agencies, such as programmes and funds, that have a significant rôle in dealing with global water concerns and in reaching the water-related Millennium Development Goals and those of the Decade for Action 'Water for

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[100] NATO is also associated with the initiative. See their websites at http://www.iisd.org/security/es/policy/envsec.asp (last visited on 20.8.2007).

[101] For a critical view, see Salman (2003a) and (2004).

Life'.[102] Other non-UN institutions, such as IUCN – The World Conservation Union, the World Water Council and the International Water Association also participate in these actions.

UN-Water acts at global, regional and country level. At global and regional level it is responsible for assessing the status of and trends in freshwater resources.[103] Since many of its agencies have operational activities at country level and UN-Water is not a mechanism for direct implementation, its contribution consists mainly of providing relevant information, for example, country-level policies and assessments, and access to this information.

At regional level, the EU Water Initiative (EUWI)[104] is the European counterpart of UN-Water. Launched at the World Summit for Sustainable Development (WSSD) in Johannesburg in September 2002, the EUWI aims at reinforcing the political commitment to implementing the Millennium Development Goals. With an advanced water policy and the new European Community Water Framework Directive, the EU created the EUWI as a basis for future action and a mechanism to improve co-ordination of and co-operation on water-related activities within the context of an integrated approach to water resources management. Amongst its objectives is the promotion of good water governance and practices, including the strengthening of institutional capacity, and the improvement of partnerships, notably for research, technology transfer and information sharing. By providing considerable experience and expertise in river basin management, the EUWI also aims at encouraging regional and sub-regional co-operation on water management issues. Further to the participation of the European Communities, governments and public sector, it encourages the participation of the private sector and local stakeholders, that is, civil society, including local communities and water users' associations, the water industry and financial institutions.

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[102] See its website at http://www.unwater.org. On the specific rôle of coordinator performed by UNESCO' WWAP, see *supra* s.5.3.3.1.

[103] It publishes periodically the UN WWDR on the state of the world's freshwater resources, and the report of the Joint Monitoring Programme for Water Supply and Sanitation on the status of water supply and sanitation.

[104] See its website at http://www.euwi.net/

5.4 The Issue of Implementation

Agreements often offer guidance as to the nature of implementing action to complement the obligation to co-operate. Different applications of the obligation are crystallised within the agreements themselves into specific detailed commitments capable of direct practical implementation. But provisions on implementation are not confined to co-operation and its corollaries. They vary to a great extent as to their nature, and include provisions[105] which:

(1) state the general aim and purpose of the form of co-operation;[106]

(2) list its objectives with a reasonable degree of detail;[107]

(3) list measures aimed at achieving such objectives;[108]

(4) specify protective measures likely to promote this form of co-operation;[109] occasionally explicit reference is made to the interests protected under the provision. These measures should be put in place so that all parties concerned benefit on an equitable basis. Another factor of critical importance is the creation of joint institutions or mechanisms designed to foster specific forms of co-operation;

(5) recommend implementation measures at the national and international levels.[110] At the national level, co-operative action usually requires the preparation of legislation, administrative action, and the formulation of policies which will guide or direct the actions of State organs, and the provision of incentives and sanctions in order to assure compliance by those subject to national jurisdiction.[111] According to the circumstances of different States and their needs, the discharge of the obligation is thus likely to require that certain types of financial incentives be offered by Government departments or foreign investment promotion agencies. At the international level, implementation requires more specific obligations and often the conclusion of additional

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[105] Based on those suggested by Pinto (1986), 146-154, in the context of the 1982 UNCLOS technology transfer.

[106] E.g. 1994 Danube Convention, Article 5(1).

[107] E.g. *Ibid.*, Article 7(1).

[108] E.g. *Ibid.*, Article 6.

[109] E.g. *Ibid.*, Article 18(1).

[110] E.g. *Ibid.*, Article 5(2).

[111] Pinto (1986), 149.

bilateral or multilateral agreements to supplement or interpret the provisions of the original agreement;

(6) articulate the duty to co-operate as the basis for the conclusion of additional arrangements or agreements supplementing or interpreting the original treaty.[112] The point of departure of such agreements may be the general obligation to co-operate undertaken through a regional convention. In order to be fulfilled this requires that States elaborate on the scope and frequency of the action which they consider as effective compliance with the obligation. The purpose of a supplementary agreement is to translate the general obligation into detailed provisions setting out specific prescribed actions, so that implementation can take place and be monitored by the parties. Further agreements detailing the rights and obligations of the parties are essential to ensure compliance. These agreements should cover such matters as the timing of the prescribed actions, financial obligations, national entities responsible for tasks assigned, the establishment of joint organs and the scope of their responsibilities, protective measures in relation to any special risks, and eventually forms of settling disputes. The purpose is to conclude a self-contained agreement and to make co-operative obligations self-executing, without the need for regular recourse to Governments or third-party mechanisms for interpretation.[113]

Problems of implementing existing watercourse treaties may have different causes and may arise in any basin.[114] In many cases they are related to the establishment of institutional mechanisms or joint commissions, notably because this requires investment and government spending. For example, in Africa, several States have adopted treaties for the management of their river basins, and when these do not function adequately they resort to concluding new agreements. In addition, difficulties may arise when little commitment is secured from decision-makers at the highest level. This may be illustrated by the 1987 ZACPLAN, which was successfully concluded with UNEP's involvement, but the implementation of which might be considered a failure

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[112] E.g. Article 9 and para.8 of the Preamble of the 1992 Helsinki Watercourses Convention, and Article 3(3) of the 1997 UN Watercourses Convention.

[113] Pinto (1986), 153-4.

[114] For an analysis of the problem and its several tests in relation to the implementation of the 1998 Luso-Spanish Agreement, see Canelas de Castro (2003), 225-232.

since the necessary funds were not obtained, including those which were to be provided by the governments of the riparian States themselves.[115]

For different reasons, the 1995 Protocol on Shared Watercourse Systems in the Southern African Development Community (SADC) Region, which was concluded to a large extent for the purpose of establishing river basin management institutions (Articles 3 to 6), has never been implemented. Among them was the fact that soon after its conclusion, the 1997 UN Watercourses Convention was adopted and States felt the need to include in their Protocol fundamental principles that were absent initially. The 1995 Protocol was later replaced by the 2000 SADC Revised Water Protocol, some of whose terms were taken from the 1997 UN Watercourses Convention. The 2000 SADC Revised Water Protocol also provides in Article 5 for an institutional framework for its implementation, namely the establishment of four committees at different levels and with diverse functions, and requires from watercourse States the establishment of commissions, water authorities or water boards.[116]

Initiatives regarding capacity-building, financial support, and good governance in order to solve these problems of long-term implementation of treaties are obviously needed.[117] On the other hand, the fact that there are few or no adequate legal and institutional mechanisms amongst riparian States also forms an obstacle to the provision of available grants, loans and foreign investment in the areas concerned. At present, several donors and agencies support the implementation of watercourse agreements in Africa and elsewhere.[118] The increasing number of these projects on transboundary water resources highlights the recognition of the problem of implementation of these agreements.[119]

At the European level, as the 1992 Helsinki Watercourses Convention does not include any specific provision concerning compliance, recent projects aim at

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[115] Nakayama (1997), 380.

[116] See Salman (2001).

[117] Okidi (1997), 176-7, 179-80. See also Okidi (1998).

[118] This is the case of the Global Environment Facility (GEF). See *supra* s.5.3.3.2.

[119] Such as The Mekong River Basin Water Utilization Project, co-financed by GEF and implemented by the World Bank, or the Project on the Environmental Protection and Sustainable Management of the Okavango River Basin, co-funded by GEF in co-operation with UNDP, and executed by FAO.

promoting its effective implementation. These projects include consideration of a compliance review procedure, comprising reporting, performance review and evaluation.[120]

5.5 A Model of Co-operation: is it Viable and is it Negotiable?

In the light of the above examination of the different forms and levels of co-operation in relation to international watercourses, is it possible to construct a model of co-operation?

The idea is not new. In 1996 Benvenisti proposed the construction of model rules regarding co-operation through joint institutions in the management of shared water resources.[121] A set of rules elaborated for joint institutions 'would offer negotiating parties a model they could adopt with or without adjustments, which would lower the costs of negotiating and designing their institutions'.[122] The model would be based on the concept of co-operation as a long-term effort based on collective action for an indefinite period of time.[123]

It is true that each river basin is different in geographical terms, thus requiring particular conventions, whether regional, bilateral or multilateral, and a separate assessment of the factors relevant to the determination of equitable and reasonable use. But it is no less true that in all cases some procedural obligations are the same, and their variations and variables may be foreseen. The model rules proposed by Benvenisti focus on the joint institutional framework, which is in fact the most desirable framework for all co-operative efforts. But these institutions also require rules of procedure to operate.

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[120] See the report 'Geneva Strategy and Framework of Monitoring Compliance with Agreements on Transboundary Waters', UNECE Doc.MP. Water/2000/December 1999, and also UNECE's 'Draft Guidelines for Strengthening Compliance with and Implementation of Multilateral Environmental Agreements (MEAS) in the ECE Region', Task Force on Environmental Compliance and Enforcement, Report by the Chairman, Doc.CEP/2003/7, of 13 December 2002, Geneva, Switzerland, adopted at Kiev in May 2003. See also Article 66 of the 2004 ILA Berlin Rules.

[121] See Benvenisti (1996).

[122] *Ibid.*, 412.

[123] See *supra* s.3.2.7.

Moreover, procedural obligations may be applied without the establishment of joint institutions. It is, therefore, suggested that a model of co-operation should be elaborated consisting of rules setting out detailed procedural duties.[124] In particular, these should concentrate on the exchange of data and information since this is a *sine qua non* condition for co-operation and helps establish or maintain a communication channel between co-riparians. In addition, these rules could also focus on the collection and processing of data and information. As with much of the work carried out in joint commissions, the elaboration of these rules require the collaboration of different experts, such as lawyers, hydrologists and engineers.

Confirming these views, which had already been expressed in 2001,[125] a 'Legal Assessment Model' (LAM) for transboundary water negotiations has recently been elaborated within UNESCO's International Hydrological Programme.[126] It aims to provide riparian States with a practical tool to determine in a systematic manner their legal entitlements and obligations in relation to transboundary waters, and to develop and implement national water policy in accordance with international rights and obligations. This model is interdisciplinary and is intended to be used and applied by persons with different backgrounds, mainly those responsible for water resources management working within a Government Ministry.

It was developed through a practice-oriented and interdisciplinary approach in the context of three different situations: focusing on an upstream State, China; on a downstream State, Mozambique; and on a State sharing groundwaters, Palestine. Hence, it was designed to be used by States irrespective of their position in relation to the watercourse.

The LAM consists of two main parts: the Data Collection Tools and the Method of Evaluation. The first part aims at assisting States in compiling all relevant information required for a comprehensive assessment, including data and information of different nature, for example on the physical environment, and

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[124] In 1980, a study on water conflicts concluded that '[i]t is often not realised that it is not enough to call for cooperation – the way such cooperation is to be brought about must be spelled out in detail.' See Widstrand (ed.), Water Conflicts and Research Priorities (1980), 172.

[125] In the Report prepared for the Centre for Studies and Research in International Law and International Relations of The Hague Academy of International Law, subsequently published as Ch.8 in Boisson de Chazournes and Salman (eds.)(2005), 281-339.

[126] See Wouters *et al.* (2005).

on legal, social and economic aspects. It comprises a Relevant Factor Matrix which helps the identification of the relevant factors; a Legal Audit Scheme; and a Glossary of Terms related to economics, hydrology and law. The second part provides a methodology for an objective processing and analysis of the information.

This model may provide guidance for States at different stages of co-operation: for agreement on the exchange of data and information, for joint river basin studies, for States in the process of negotiating an agreement on water use, or to facilitate the resolution of an existing dispute.

The advantages of model rules are clear: first, in treaty negotiations, States may adopt or adapt the model rules and consequently lower the costs of the negotiation process and facilitate the implementation of the substantive principles; secondly, they would systematise the alternatives, and would clearly lay down what is expected of the parties to the treaty in terms of co-operation. It is much easier to implement and comply with – or to vary from – specific requirements which are clearly set out than to implement vague and general notions. Given the nature of the proposed model rules, and following the example of the work prepared by the World Commission on Dams, and more recently from the LAM, their elaboration would require the joint work of a multi-disciplinary team.

For all the reasons already mentioned, such as different regional characteristics and water uses,[127] it is obvious that any proposal for the elaboration of uniform detailed rules for all the basins in the world, or even just for some, would be inappropriate and not practicable. This notwithstanding, it may be argued that it is not too difficult to devise a model of co-operation; that the central problem is that this model would not be of much use unless a substantial proportion of States were prepared to accept it as a model.

This argument is valid up to a certain point. The 1997 UN Watercourses Convention, a framework convention of universal character, may be viewed itself as a model of co-operation, since it provides a legal framework for co-operation. And although it was prepared by the ILC, discussed in the UN

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[127] See *supra* s.1.3 and s.1.4.

Sixth Committee, and finally adopted by the UNGA, it is not yet in force. Article 36 of the Convention requires 35 States to ratify it for its entry into force, and ten years later only 16 States have so far done so. In fact, due to the sensitivity of the subject and divergent positions adopted by the States at the UN Sixth Committee, the Convention may never enter into force. It is evident that although States recognise several obligations in the field in soft law instruments, such as the duty to co-operate, there is not yet the political will required for governments to accept them in more precise and onerous terms.

Nevertheless, the 1997 UN Watercourses Convention has already produced effects at regional and local level, that is, it has served as a model for the conclusion of further framework and for particular river basin treaties. This is the case, for instance, in Southern Africa. The 2000 SADC Revised Water Protocol, a framework convention itself, follows the 1997 UN Watercourses Convention closely. And within its ambit other particular basin agreements have been concluded, such as the 2002 Incomaputo Tripartite Interim Agreement. And the number continues to increase. Hence, although a model of co-operation may not ever be accepted universally, it has already been followed in different regions of the world.

6

Co-operation and State Responsibility

The only thing that will redeem mankind is co-operation.
Bertrand Russell

The breach by a State of the obligation to co-operate raises several questions. We have seen in Chapter 4 that the obligation to co-operate may be applied through different procedural rules. But does this mean that the violation of one of these rules is necessarily a violation of the general obligation to co-operate? And if so, when claiming it, does the breach have to be explicitly identified? And which State carries the burden of proof?

Say, a State fails to notify other co-riparian States of a projected dam on the shared river. Is this State liable for not co-operating? And if so, when does responsibility arise? Is it only when actual damage occurs? And what would the position be if, after protest from a potentially affected co-riparian and the works on the dam have begun, the planning State then consulted the protesting co-riparian to the exclusion of other co-riparian States?

There are several issues to be considered when examining responsibility arising from failure in co-operation. It is necessary, first, to identify the breach or breaches of specific rules; second, to analyse the conduct of the alleged State in breach and the action taken, if any, by other States in relation to this State; third, to examine the environmental, legal, and political consequences of the breach, including the assessment of any damage, actual or potential; and finally, to consider the possible forms of reparation.

This chapter examines the characteristics of responsibility for internationally wrongful acts, that is, for breach of the obligation to co-operate and of its corollaries, whether these are treaty obligations, or rules of local, regional or general customary law. For this purpose, the work of scholarly associations and the ILC, the provisions on responsibility in different treaties and the existing case law are analysed. The chapter also looks at the question of whether responsibility and liability are also engaged before or even without the occurrence of damage. It also provides a brief analysis of circumstances excluding responsibility, and forms of reparation. In addition, it examines the liability arising out of acts not prohibited by international law, i.e., the objective régime as applicable to the procedural law of co-operation.

6.1 Introductory

In general, the existence or lack of co-operation among States is easily identified. Governments emphasise their co-operation for political reasons, usually to maintain or reinforce good state relations. They also occasionally claim that other States failed to co-operate, whether privately, through unpublicised protests, or publicly, particularly when support is sought on a politically sensitive matter – as most water resources issues are –, and before a court or tribunal, when a dispute has already arisen.

When a specific obligation has been breached, States may be able to claim the breach not only of that obligation but also of the all-embracing obligation of co-operation. One of the reasons for this is the political and legal connotations of the word. Co-operative conduct is associated with good faith, with the willingness to prevent disputes and to maintain peace and good neighbourly relations with other States. In other words, a State accused of not co-operating is regarded as infringing several other basic principles of international law, such as the principle of good faith or the principle of good neighbourliness.[1] And even though it is up to the claimant State to prove this breach, the effects produced usually go well beyond the legal field.

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[1] See *supra* s.2.3.

Special régimes of state responsibility are regarded as limiting state sovereignty, and States are usually reluctant to agree to them. This is why Principle 12(2) of the 1978 UNEP Principles on Shared Natural Resources states that 'States should co-operate to develop further international law regarding liability and compensation for the victims of environmental damage arising out of the utilization of a shared natural resource and caused to areas beyond their jurisdiction',[2] and later Article 7 of the 1992 Helsinki Watercourses Convention and Article 13 of the 1992 Industrial Accidents Convention provide that States 'shall support appropriate international efforts to elaborate rules, criteria and procedures in the field of responsibility and liability'. Thus, it is the general régime of state responsibility that usually applies to international water resources, with certain adjustments. This is confirmed, for instance, by Article 68 of the 2004 ILA Berlin Rules on Water Resources, which refers directly to the general law on state responsibility, and thereby to the 2001 ILC Articles on the Responsibility of States for Internationally Wrongful Acts, insofar as they reflect the position in customary international law.

6.2 Responsibility for Wrongful Acts

There are still today across the globe several examples of lack of co-operation in relation to shared water resources. The nature of the relations between the riparian States involved range between friendly and hostile.

An example of the latter situation is that of the Tigris-Euphrates basin. This basin comprises both the Tigris and Euphrates rivers, shared between Turkey, Syria, and Iraq.[3] There is no multilateral comprehensive agreement[4] and each

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[2] Based on Principle 22 of the 1972 Stockholm Declaration. Caflisch argues that Principle 22 of the 1972 Stockholm Declaration generated a system of responsibility *erga omnes* in case of violation of the obligation to co-operate it establishes. Caflisch (1989), 171.

See also Principle 13 of the 1992 Rio Declaration, Article 235(3) of the 1982 UNCLOS in relation to damage caused by pollution of the marine environment, and Article 14(2) of the 1992 CBD in relation to damage caused to biological diversity.

[3] The confluence of the Tigris and Euphrates rivers form the Shatt-al Arab river, which flows to the Persian Gulf and is shared between Iraq and Iran.

[4] There are some bilateral treaties, including Protocol 1 annexed to the 1946 Treaty of Friendship and Neighbourly Relations between Iraq and Turkey, which provided for the establishment of a joint technical committee between the two States, which has never been set up.

State puts forward a legal position according to its geographic position in the basin. Turkey, the upstream State, has decided to carry out the controversial South Eastern Anatolia Project (GAP Project),[5] which comprises the construction of a series of dams, including the colossal Ataturk dam, and hydro-electric power plants designed to prevent flooding, to produce hydro-electricity, and to increase irrigation. Turkey has not given advance notice of the project to Syria and Iraq. This project will have a significant impact on the lower riparians, mainly because it will drastically reduce the flow, and both Syria and Iraq are absolutely dependent on the water. In fact, each State is carrying out separately a development plan for the river within its own boundaries. The three States entered into consultations after claims from the two downstream riparians that they had acquired water rights through historical precedent, but they broke down due to disagreement over water quotas and the outbreak of the Gulf war. At present the situation is still unresolved.

Another example elsewhere, but this time showing partial success in achieving co-operation between some riparian States, is the case of the Mekong River. This river is shared between China, Myanmar (formerly Burma), Laos, Thailand, Cambodia and Vietnam, but only the last four States are parties to the 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin. This Agreement provides for the establishment of the Mekong River Commission (MRC) and in Article 1 for 'co-operation in all fields of sustainable development, utilisation, management and conservation of the water and related resources of the Mekong River Basin'. China and Myanmar are the upstream States and, although the activities undertaken on the river basin on their territory are likely to produce significant effects downstream, they have decided not to become Parties to the Agreement. Yet since 1996 they have observer status at the MRC. As with the GAP Project, China has decided to construct eight dams on the Mekong River without informing or consulting with the downstream riparians. But here there are signs of increasing co-operation, as on 1 April 2002 China signed an agreement on the provision of hydrological information on the Mekong River.[6]

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[5] On the main issues raised by the GAP Project, see, e.g. Scheumann (1998). See also McCaffrey (2001), 279-284.

[6] In particular, China provides water level data in the flood season from two stations located on the Upper Mekong in China. Currently, riparian States are negotiating a more comprehensive data sharing agreement to include dry season levels.

One could name many more examples. Each case of failure to co-operate raises several questions as to responsibility. The conduct, be it an action or omission, constitutes a breach of an international obligation of a State, whether conventional or customary, and is attributable to that State under international law.[7] This conduct, whether with intention to cause the wrongful act or through negligence, entails the international responsibility of that State. The type of activity causing the damage is not an important factor for the purposes of determining liability.

6.2.1 The Obligation to Co-operate: Issues of Non-Compliance

The wording of the obligation to co-operate used in treaties often needs clarification or interpretation in order to determine the specific course of action required to fulfil the obligation in good faith. This raises several problems. One is that of the evidence of the breach of the obligation. Unless the violating State has positively acted in an unco-operative fashion or, conversely, has taken no action at all, providing evidence of a breach of the obligation to co-operate may prove to be a very difficult task. An important threshold to be considered here is that of conduct that could be deemed minimal co-operation. When the burden of proof lies with the State claiming lack of co-operation, the fact that the obligation is drafted in general terms without specifying the action required to implement it may make it impossible to demonstrate that there is a breach of the obligation, whether this consists of lack of any action or of action falling short of or not in conformity with the obligation, and in particular that this action or omission has not reached the threshold.

In contrast to other areas of international law, such as rules on most-favoured-nation treatment or rules on protection of inviolable persons or premises, in the law of international water resources it is often very difficult to determine whether an obligation has been complied with or not. This reason alone suggests the desirability of prescribing of a much more detailed and specific content for the obligation. This problem arises, for example, in determining whether a State has exceeded its equitable share of the water or

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[7] The elements of an internationally wrongful act of a State are set out in Article 2 of the 2001 ILC Articles on State Responsibility.

has not called for co-operation between the riparian States concerned in order to achieve and maintain an equitable share. As we have already seen, it is fundamental that there is some degree of contact and co-operation between the co-riparians, which should include, at least, the regular exchange of data and information regarding the river basin within each State's territory.[8] But would this conduct be enough? How does a State know the limits of its own right without having previously consulted with the other co-riparians?[9]

In legislative drafting, it is usual to use mandatory terms such as the verb *shall* in order to convey a notion of command. And the command to co-operate 'would seem necessarily to entail the obligation to enter into negotiations in good faith at the request of any interested party with a view to transforming a provision worded in general terms into specific units of obligation for the purpose of implementation susceptible of being monitored and, where necessary, subjected to dispute settlement procedures. Before such a transformation is effected and the resulting arrangements have entered into effect, the refusal to respond to a request to enter into negotiations or other uncooperative action at any subsequent stage of the implementation process, would itself amount to a breach of the Convention's provisions, and justify appropriate remedial action under . . . general international law.'[10] Although written with regard to the 1982 UNCLOS, this may be applied *mutatis mutandis* to treaties on watercourses and to the 1997 UN Watercourses Convention once in force.

6.2.2 The Relationship Between Substantive and Procedural Rules

The responsibility of the State violating a treaty rule does not vary depending on whether the rule is substantive or procedural. However, the violation of procedural rules often affects the application of substantive rules, that is, it may lead to the breach of these rules.

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[8] See *supra* s.4.2.

[9] On the application of the principle of equitable and reasonable utilisation, see *supra* s.2.3.4.

[10] Pinto (1986), 145.

The breach of the obligation to co-operate usually implies that one of the two essential substantive rules has not been observed. The obligation of equitable and reasonable utilisation as well as the obligation not to cause significant transboundary harm require different procedural rules to be complied with.[11] If one of these procedural rules has not been observed, the potentially affected State may also – as they often do – claim that the general obligation to co-operate has been breached. Should harm occur, the issue of responsibility of the injuring State is raised, not least in order to determine whether the harm reached the 'significant' threshold. And in case of difficulties in determining the threshold of 'significant' harm, in particular when States do not have good neighbourly relations, a dispute may arise. Yet States may agree that responsibility does not arise if co-riparians do not object to the fact causing the harm or if, when they do object, the injuring State stops causing it.[12]

6.2.3 Breach of Procedural Rules in Regular Situations

The issue of state responsibility arising from the breach of the obligation to co-operate or one of its corollaries has never been analysed in a dedicated study nor in an international instrument. There are only general references to the law of state responsibility. Conversely, many studies on international water resources have dealt with the matter of responsibility for substantial transboundary harm.[13]

Failure to co-operate or to comply with one of the requirements of the obligation to co-operate, whether an act or omission, may constitute an international wrongful act entailing the responsibility of the breaching State. Examples of violation, as referred to in the *Lake Lanoux* arbitration,[14] include the refusal to provide data and information on the watercourse, refusal to notify planned measures or to enter into consultations in good faith, systematic obstruction in meetings, unjustified breaking off of discussions, abnormal

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[11] See *supra* Ch.4.

[12] See, e.g. Article 63 of the 1960 Frontier Treaty.

[13] See, e.g. Principle VII of the 1956 ILA Dubrovnik Statement of Principles and Article XI(1) of the 1966 ILA Helsinki Rules on violation of the obligation of pollution prevention, Article V of 1972 Articles on Marine Pollution of Continental Origin, and Article V of the 1979 IDI Athens Resolution with respect to pollution of rivers and lakes. See *supra* s.2.3.5.

[14] See *supra* s.3.2.6.4. and s.4.4.

delays, disregard of the agreed procedures, systematic refusals to take into consideration adverse proposals or interests, and, more generally, the violation of the rules of good faith. Furthermore, where a treaty requires States to co-operate through concerted action, obstruction to such action may be viewed, in certain circumstances, as a breach of the obligation to co-operate.

The 1997 UN Watercourses Convention provides in Article 16 on the absence of reply to notification that where a planning State notifies a potentially affected State of projected works, provided that this work does not deprive the other State of its equitable and reasonable use of the watercourse (Article 5) and provided that the project will not cause significant harm to the potentially affected State (Article 7), and the notified State does not reply within six months, the notifying State may proceed with the implementation of its planned measures.[15] This Article aims at protecting the notifying State against subsequent claims by the notified State. Article 16(2) lays down that

> Any claim to compensation by a notified State which has failed to reply within the period applicable pursuant to Article 13 may be offset by the costs incurred by the notifying State for action undertaken after the expiration of the time for a reply which would not have been undertaken if the notified State had objected within that period.

This clearly states that the costs incurred by the notifying State in implementing its project in reliance on the absence of a reply to notification may be deducted from any damages claimed later on by the notified State.[16] In the case of several notified States who failed to reply and claimed damages, the deduction would be made *pro rata* on the basis of their respective claims.

There is no provision in the 1997 UN Watercourses Convention regarding legal consequences of non-compliance with the obligation to notify[17] or to respond to a request of notification. This means that the general régime of state responsibility applies, and in case of damage caused in the territory of the affected State, this breach may affect the level of compensation to be paid if it

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[15] See *supra* s.4.3.1.4. See also Article 59(1) of the 2004 ILA Berlin Rules, which does not provide a specific deadline for the reply, rather using the general expression 'within a reasonable time' for entering into consultations or negotiations.

[16] See also Article 59(2) of the 2004 ILA Berlin Rules.

[17] Only the 1966 ILA Helsinki Rules provided for a sanction in this case. See *supra* s.4.3.1.2.

can be shown that the breach of this obligation led to additional loss.[18] This is the case, for instance, when the upstream State closes the dam gates. This diminishes significantly the water flow relied on by the downstream State, even if only for a specific period of time. The decision to close the gates may be caused by different reasons. Electricity might not be needed temporarily from this power plant or the plant equipment might require maintenance. If the affected downstream State is not promptly notified, it may suffer additional damage as it could not take appropriate measures to prevent, mitigate or eliminate the damage downstream, such as obtaining the required amount of water from other sources.

Kiss speaks of a régime of *soft responsibility*, based in the concept of *soft law*.[19] As the primary goal in the law of natural resources is to obtain compliance before the environment is harmed, monitoring and reporting on the state of the water resources are helpful compliance techniques. These compliance control mechanisms exert pressure on Governments not only sensitive to public opinion but also protective of their reputation. The possibility of civil proceedings against individuals in domestic courts has the same effect.

6.2.3.1 Overview of Relevant International Decisions

Some international decisions, which have contributed directly to the development of the law of international responsibility, are relevant to the application of the two substantive principles of international water resources: first, the principle that States are subject to limitations on their use of the fresh water of international rivers;[20] secondly, the principle that unilateral action in certain circumstances may be subject to an international claim if the use of the waters causes injury to other riparian States.

In the *Trail Smelter Arbitration*, the Tribunal asserted the rule that, as in the common law of nuisance, liability derives from unreasonable interference with

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[18] This situation is similar to the breach of binding interim measures of protection. The ICJ, however, has not yet dealt with the issue of remedies in the case where a party claiming compensation for damage has offered proof of additional loss caused by that breach. See Mendelson (2004), 43.

[19] Kiss (1989), 20 and 117.

[20] See *supra* s.2.2.3.

the enjoyment of land. It should be noted that the arbitral agreement contained a proper law clause which required the Tribunal to apply not only international law and practice but also US law and practice. Canada supported this reference to US law as decisions of national courts regarding industrial nuisance were less favourable to industry. While finding Canada responsible in international law for the conduct of Trail Smelter, the Tribunal concluded that 'under the principles of international law, as well as of the law of the United States, no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence'.[21] The underlying principle of *sic utere tuo ut alienum non laedas* applies by analogy to the utilisation of the waters of river basins.[22]

In the *Corfu Channel* case, Albania was found to be responsible for failing to give warning to the United Kingdom or others exercising lawful rights of innocent passage of the existence of mines, that is, of breaching the obligation to notify other States of known dangers. The Court noted that it is 'every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States' .[23] This dictum of the Court also applies to problems related to international water resources.

In the *Gut Dam Arbitration*, a Tribunal was established in 1965 to adjudicate claims by US nationals against Canada for damage caused by the construction and operation of the Gut Dam on the St. Lawrence River. The U.S.A. had consented to the construction of the dam, provided that Canada would pay compensation if the dam caused damage or detriment to US property owners. Due to the diversion of water by Canada into the Great Lakes to increase hydro-electric power generation and to storms, water levels reached unprecedented levels causing flooding and erosion damage to the north and south shores of all the Great Lakes. Before the establishment of the Tribunal, Canada had recognised its obligation to pay compensation for damage attributable to the Gut Dam. Thus, the Tribunal concluded that it only had to determine whether the dam had been the cause of the damage claimed and the

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[21] 3 *RIAA*, 1965.

[22] See *supra* s.2.3.5.

[23] ICJ Reports (1949), 4, at 22.

amount of the damages to be paid. Even though Canada agreed to settle the case without prejudice to the legal and factual positions maintained by the parties, this case provides support for the obligation not to cause significant harm to other States.

In the *San Juan River* Case[24] the Central American Court of Justice, in its decision of 30 September 1916, addressed the question of the stage at which the obligation to consult must be discharged. It concluded that it was not necessary to wait until the site of the projected canal had been located or until Costa Rica's 'natural rights' had suffered concrete and material injury to determine whether Costa Rica had to be notified and consulted. It further added that it was a principle of inter-state relations that a potential affected State was entitled to demand 'redress, in the name of its fundamental rights of existence and preservation, for an act that involves a simple menace or danger to the development of those rights.'[25]

6.2.3.2 The Contribution of Recent Law of the Sea Case-Law [26]

The breach of the obligation to co-operate has been claimed in three cases before the International Tribunal for the Law of the Sea (ITLOS).

The *Southern Bluefin Tuna* Cases[27] concerned the conservation and optimum utilisation of the Southern Bluefin Tuna (SBT). In these cases, and in the absence of agreement between the States for the settlement of the merits of the dispute, ITLOS was asked to prescribe provisional measures pending the constitution of an arbitral tribunal under Annex VII to the 1982 UNCLOS.

Australia, New Zealand, and Japan are parties to the 1993 Convention for the Conservation of SBT[28], under which a Commission was established.[29] This Commission decides, with the assistance of a Scientific Committee, a total

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[24] For an analysis of the case, see *supra* s.3.2.6.1.

[25] Robb (1999), 39.

[26] For the contribution of the 1982 UNCLOS, see *supra* s.3.3.1.

[27] (New Zealand *v.* Japan; Australia *v.* Japan), Provisional Measures.

[28] Adopted on 10 May 1993, in Canberra, Australia, and entered into force on 20 May 1994.

[29] See generally its website at http://www.ccsbt.org.

allowable catch and its distribution among the member States. Although the stock had been severely depleted and continued to decline, other non-member States increased fishing. From 1995 Japan proposed an increase in the total allowable catch (TAC), but no agreement was reached. In 1998 Japan initiated an experimental fishing programme (EFP).

On 30 July 1999, New Zealand and Australia filed their requests for provisional measures with ITLOS. They claimed among other things that Japan had failed to comply with its obligation to co-operate in good faith in the conservation of the SBT stock prescribed in Articles 64 and 116 to 119 of the 1982 UNCLOS by undertaking unilateral experimental fishing for SBT in 1998 and 1999. This unco-operative action had also resulted in a threat to the stock as Japan was taking over the national allocation previously agreed upon. Thus, they requested the Tribunal to issue an interim injunction against Japan requiring it, *inter alia*, immediately to cease the EFP for the SBT, to restrict its catch to its national quota as last agreed, reduced by the amount taken in the course of its EFP, and to act consistently with the precautionary principle in the fishing of the SBT pending final settlement of the dispute. They also asked the Tribunal to order Japan to 'negotiate and co-operate in good faith' with them, including through the Commission 'with a view to agreeing future conservation measures and TAC for SBT necessary for maintaining and restoring the SBT stock to levels which can produce the maximum sustainable yield'.

In its Response and Counter Request, Japan requested the Tribunal to grant it provisional relief by prescribing that Australia and New Zealand urgently and in good faith resume negotiations and consultations with Japan for a period of six months with a view to reaching an agreement on the outstanding issues between them, namely, the TAC catch and national annual allocations, and the continuation of the EFP (on a joint basis). If no agreement was reached within six months, any remaining disagreement should be referred for resolution to the panel of independent scientists who had been engaged by the parties. Japan argued that

> The ... Statement of Facts and the history of negotiations between Australia, New Zealand and Japan concerning conservation of SBT, chronicles the bad faith exhibited by Australia and New Zealand in terminating consultations and negotiations over the terms of a joint experimental fishing program and their rash resort to proceedings under UNCLOS despite the absence of any controversy thereunder and the failure to

exhaust the amicable provisions for dispute resolution that Part XV mandates be fully utilized. Accordingly, this Tribunal should require Australia and New Zealand to fulfil their obligations to continue negotiations over this scientific dispute.

According to Article 64(1) and Article 118 of the 1982 UNCLOS, the coastal State and other States whose nationals fish in the region for the highly migratory species listed in Annex I, which includes southern bluefin tuna, have the duty to co-operate directly or through appropriate international organizations with a view to ensuring conservation and promoting the objective of optimum utilisation of such species throughout the region. Article 118 specifies that

States shall co-operate with each other in the conservation and management of living resources in the areas of the high seas. States whose nationals exploit identical living resources, or different living resources in the same area, shall enter into negotiations with a view to taking the measures necessary for the conservation of the living resources concerned. They shall, as appropriate, co-operate to establish subregional or regional fisheries organizations to this end.

The Tribunal, after finding that it had jurisdiction over the disputes, considered it appropriate to prescribe provisional measures. Although the Tribunal could not conclusively assess the scientific evidence presented by the parties (para. 80), it found that the parties should act with prudence and caution and that measures should be taken as a matter of urgency to preserve the rights of the parties and to avert further deterioration of the SBT stock. Thus, the Tribunal decided that the parties should refrain from conducting an EFP involving the taking of a catch of SBT, except with the agreement of the other parties or unless the catch is counted against its annual national allocation, and that their annual catches should not exceed the annual national allocations at the levels last agreed by the parties. It also decided that the parties should resume negotiations without delay with a view to reaching agreement on measures for the conservation and management of SBT, and that they should make further efforts to reach agreement with other States and fishing entities engaged in fishing for SBT, with a view to ensuring conservation and promoting the objective of optimum utilisation of the stock.

This order to co-operate seemed to result from the fact that not only had the parties not agreed as to whether the conservation measures taken so far had

led to the improvement in the stock of SBT but also due to present scientific uncertainty as to the appropriate measures to be taken to conserve the stock of SBT. Therefore, in this situation the Court could not pursue the avenue of prescribing the actual measures to be taken by the parties to achieve the desired result of conserving the stock. The Tribunal could only order the parties to negotiate in order to reach an agreement and fulfil their obligations under the 1982 UNCLOS.

Judge Vukas, in his dissenting opinion, considered that the provisional measures requested were not urgent. Among his arguments was the fact that, although Australia and New Zealand had argued that Japan's unilateral experimental fishing for SBT in 1998 and 1999 was but one of the manifestations of 'Japan's failure to conserve, and to cooperate in the conservation, of the SBT stock ...', all the relevant data and argumentation dealt almost exclusively with Japan's experimental fishing in 1998 and 1999 and 'no other acts of Japan which could be characterized as relevant independent manifestations of the non-willingness of that State to cooperate in the conservation of the southern bluefin tuna stock' were advanced.

A joint declaration by six judges points out that co-operation between the Parties to the Convention, at both the scientific and governmental levels, has not been effective in recent years and reminds the parties that Article 64 of the 1982 UNCLOS lays down a duty to co-operate to conserve the stocks. Thus, the judges criticise the attitude of all parties to the dispute, leaving it clear – though subtly – that the obligation to co-operate applies to all States involved.

The Annex VII Arbitral Tribunal later decided that it had no jurisdiction and consequently did not consider the merits of the case.

The third case where the breach of the obligation to co-operate has been claimed is the *Mox Plant* case. The United Kingdom authorized operations of a mixed oxide fuel (MOX) plant located at Sellafield British nuclear facility near the coast of the Irish Sea, resulting in discharges, and related movements of radioactive materials into the Irish Sea. Ireland asked ITLOS to suspend operation of the plant and to take certain other protective measures pending constitution of an arbitral tribunal under Annex VII to the 1982 UNCLOS to hear the case on the merits.

Ireland claimed, among other things, that the United Kingdom had breached its obligations under Articles 123 and 197 of the 1982 UNCLOS by having failed to comply with the obligation to co-operate with Ireland in the protection of the marine environment of the Irish Sea. This was evidenced, *inter alia*, by refusing to share information, by refusing to carry out a proper environmental assessment of the impact on the marine environment of the MOX Plant and associated activities, and by proceeding to authorise the operation of the MOX plant whilst proceedings relating to the settlement of a dispute on access to information were still pending.

Although the Tribunal denied the provisional measures requested by Ireland in its Order of 3 December 2001, it prescribed co-operation between the two States and, specifically, consultations on some matters. This was based on the Tribunal's recognition that 'the duty to co-operate is a fundamental principle in the prevention of pollution of the marine environment under Part XII of UNCLOS and general international law and that rights arise therefrom...' (para. 82), such as the right to receive and exchange information and to enter into consultations.

As in the SBT cases, the Tribunal did not found its decision expressly on the precautionary principle, but referred to 'prudence and caution' which 'require that Ireland and the United Kingdom co-operate in exchanging information concerning risks or effects of the operation of the MOX plant and in devising ways to deal with them, as appropriate' (para. 84).

The Tribunal unanimously ordered the parties to co-operate and specified how this obligation would be implemented.[30] The operative part reads as follows:

Ireland and the United Kingdom shall co-operate and shall, for this purpose, enter into consultations forthwith in order to:

(a) exchange further information with regard to possible consequences for the Irish Sea arising out of the commissioning of the MOX plant;

(b) monitor risks or the effects of the operation of the MOX plant for the Irish Sea;

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[30] In 2003, in the Case concerning Land Reclamation by Singapore in and around the Straits of Johor, ITLOS once again unanimously ordered the States involved to co-operate and specified what this obligation entailed for Malaysia and Singapore.

(c) devise, as appropriate, measures to prevent pollution of the marine environment which might result from the operation of the MOX plant.

In a joint declaration, Judges Caminos, Yamamoto, Park, Akl, Marsit, Eiriksson and Jesus explain their decision:

More importantly, our position is a response to another characteristic of the dispute as presented to the Tribunal, that is, the almost complete lack of co-operation between the Governments of Ireland and the United Kingdom with respect to the environmental impact of the planned operations. It is clear that this state of affairs has its origin in a long-standing dispute with respect to other activities at the Sellafield site, but those activities are not before the Tribunal.

The Tribunal has identified the duty to co-operate as a fundamental principle in the regime of the prevention of pollution of the marine environment under Part XII of the Convention and general international law. Against the background of that duty, we regard the most effective measure that the Tribunal could have adopted was to require the parties to co-operate forthwith. It is not, we trust, an idle hope that the results of the consultations prescribed will include a common understanding of the scientific evidence and a common appreciation of the measures which must be taken with respect to the plant to prevent harm to the marine environment.

In a separate opinion, Judge Mensah went further and explained that in his view the procedural rights in question could in any event be enforced at a later stage:

With regard to the 'procedural rights' (co-operation and consultation) which Ireland claims have been violated by the United Kingdom, I agree with the Tribunal that some at least of these are 'rights' that may 'be appropriate for protection' by provisional measures under Article 290 of the Convention (paragraph 82 of the Order). However, I do not find that any irreparable prejudice to Ireland has occurred or might occur before the constitution of the arbitral tribunal. In my view none of the violations of the procedural rights arising from the duty to co-operate or to consult or to undertake appropriate environmental assessments are 'irreversible' in the sense that they cannot effectively be enforced against the United Kingdom by decision of the Annex VII arbitral tribunal, if the arbitral tribunal were to conclude that any such violations have in fact occurred. For example, it would be within the competence of the Annex VII arbitral tribunal to order United Kingdom either to decommission the MOX plant altogether or to go back to the drawing board and take action to comply with any applicable procedural requirements that the arbitral tribunal finds should have been followed

before giving final authorization for the MOX plant. Thus, in my view, the violations of the 'procedural rights' about which Ireland complains are capable of being made good by reparations that the arbitral tribunal may consider appropriate. I regret that the Tribunal did not consider it necessary to deal explicitly and directly with this aspect of the matter.

The case is still pending before the Annex VII arbitration tribunal. By Order No. 3 of 24 June 2003,[31] the Tribunal formally suspended further proceedings due to a challenge to its jurisdiction.[32] The arbitral tribunal also affirmed the provisional measures ordered by ITLOS, and decided that no further order was required as to co-operation and the provision of information at that stage.[33] Although the Tribunal did not address the issue of 'adequacy and timeliness of the disclosure of certain information' and 'the character and extent of co-operation', it based its decision on the increased measure of co-operation developed between the parties since the ITLOS order.[34] Nevertheless, it expressed its concern that 'such co-operation and consultation may not always have been as timely and effective as it could have been' (para. 66). Thus, the Tribunal recommended the parties to *seek to establish* further arrangements at intergovernmental level to address this concern, and to undertake a general review of the system of intergovernmental co-operation as offered by the United Kingdom (paras. 48 and 67).

As to the proceedings brought against Ireland by the Commission of the European Communities, the European Court of Justice gave judgment on 30 May 2006.[35] The Court found that it had exclusive jurisdiction under Article 292 EC since the dispute concerned the interpretation and application of Community law issues. The Court declared that, by instituting dispute settlement proceedings against the UK under the 1982 UNCLOS concerning the

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[31] Order No.3 - Suspension of Proceedings on Jurisdiction and Merits, and Request for Further Provisional Measures.

[32] By Order No.4, of 14 November 2003, the Tribunal decided that the proceedings remain suspended until the European Court of Justice has given judgment on Community law issues.

[33] As ITLOS, it based the decision on the assurances made by the United Kingdom Government. See para.47.

[34] Ireland continued to argue that the UK had failed to consult and co-operate fully and effectively. Further to detailing the procedural applications and implementation of the general duty to co-operate, Ireland describes what it calls 'the history of non-cooperation' .

In the oral pleadings on 17 June 2003, the Attorney General of Ireland, Mr Rory Brady SC, explained that 'In general, Ireland hopes that the Tribunal will establish a framework for real and meaningful consultation between the parties, guided by the principles of UNCLOS.'

[35] Case C-459/03, [2006] ECR I-4635.

MOX plant, Ireland exercised a competence which belongs to the Community and has thus failed to fulfil its obligations under Articles 10 EC and 292 EC and under Articles 192 EA and 193 EA. The arbitral tribunal proceedings can therefore be continued if at all only on a greatly reduced basis.[36]

This case proves that even in the context of treaty obligations, co-operation as such requires specific detail in order to be implemented. It also shows that the failure to comply with it can be argued even if only one specific application has been disregarded. As the obligation has a strong political connotation, invoking its failure is used as an effective political tool to obtain support domestically and as a diplomatic tool to exert pressure at the international level. In this context it is used to emphasise the breaching State's conduct as it may imply the acting in bad faith.

International courts and tribunals are faced with the difficult task of determining the exact legal content of the obligation in cases brought before it. But as procedural obligations are often required to be implemented on a continuous basis, the judicial function seems to imply a reminder to States that most issues have to be resolved between the States themselves.[37] Moreover, detailed prescription of procedures in some cases does not seem to be practicably possible.

6.2.4 Breach of Procedural Rules for Emergencies

The risk of water-related disasters has always existed, but in the past couple of decades international efforts to diminish it have been on the rise, mainly through data collection and sharing, and joint preventive action. In the period between 1990 and 2001, over 2,200 water-related disasters occurred worldwide: 35% in Asia, 29% in Africa, 20% in the Americas, 13% in Europe, and 3% in Oceania. More than half of these were caused by floods, 28% by water-borne and vector disease outbreaks, and 11% by droughts.[38]

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[36] Since this judgment, the arbitral tribunal has decided to suspend until further notice the requirement that the parties submit periodic reports and information on the provisional measure affirmed and the recommendations made in its Order No.3.

[37] See also *supra* s.3.2.6.7.

[38] At http://www.unesco.org/water/ (last visited on 15.1.2007).

Some of the cases attracting wider public attention and outrage are those resulting from the breach of the obligation to notify in emergencies,[39] which is linked with the substantive obligation to prevent, mitigate or eliminate harm. If notification is not given in a timely fashion, the State will be held accountable for the additional damage caused by this breach.

The 1997 UN Watercourses Convention provides both for the obligation to notify 'without delay and by the most expeditious means possible' and to co-operate with potentially affected States and competent international organizations to prevent, mitigate and eliminate harm by immediately taking 'all practical measures necessitated by the circumstances' (Article 28(2) and (3)). Although in the case of emergencies originated solely by natural causes, the State where the emergency originated is likely not to be liable for the harmful effects in other States,[40] the breach of the obligation to notify and to take the necessary measures to prevent, mitigate and eliminate harm will engage the responsibility of that State.[41] This is the case, for example, of an emergency caused by heavy rains where the water withhold in a reservoir reaches a very high level with a consequent increase of pressure against the dam. In order to diminish this pressure and to prevent the breaking of the dam, the upstream State has to release water in larger amounts than usual by opening the safety gates. If the dam State does not notify the downstream State of the situation, appropriate measures are not taken and damage may be caused by the sudden increase of water discharge.

In Europe, two cases which have had significant consequences illustrate different experiences. First, the spill of pesticides by the pharmaceutical company Sandoz in the river Rhine in 1986, which led to closer co-operation. Secondly, the cyanide and mineral waste spills from Romanian mines into different rivers in 2000.

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[39] See *supra* s.4.3.3.

[40] See *infra* s.6.2.7.

[41] See Article 28 of the 1994 ILC Draft Articles, comm.2 *in fine*.

6.2.4.1 The Sandoz Accident

International co-operation between the States of the International Commission for the Protection of the Rhine against Pollution (ICPR)[42] may be deemed a model, in particular due to its overcoming difficult situations, such as the Sandoz accident in 1986. The 1976 Agreement for the Protection of the Rhine against Chemical Pollution, which was then the main legal instrument regulating pollution, was inspired by Council Directive 76/464/EEC, of 4 May 1976, on pollution caused by certain dangerous substances discharged into the aquatic environment of the European Community.[43] The water management conceived in the treaty was based on the concept of the hydrographic basin, which allowed an improvement of the water quality in the basin.

On 31 October 1986, the pharmaceutical company Ciba-Geigy had released 88 gallons of Atrazin, a weed killer, into the Rhine River from a treatment plant in Switzerland. According to Ciba-Geigy, its staff accidentally released pesticides into the river before they had been treated; but the concentration of Atrazin, which is not a powerful poison, was low and did not kill the fish.

The next day, a fire broke out at a riverside storage building at the Sandoz plant in Schweizerhalle, a chemical company in Basel, Switzerland, and spilled an enormous discharge of toxic chemicals, including 8 tons of mercury, into the Rhine River. The water used to put out the fire carried 10 to 30 tons of toxic substances into the river. At least 34 different chemicals were washed into the Rhine, some of which may have fused into new compounds as a result of the high temperatures created by the fire. The chemicals included dyes, insecticides and mercury.

On 11 November 1986 only, the Water Safety Administration authorities in Basel, Switzerland, announced that the day before the Sandoz well-publicised accident another accidental leak of toxic chemicals had spilled into the Rhine River. Still in November, France, West Germany, the Netherlands and Switzerland, riparians of the Rhine, reacted very rapidly by taking defensive

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[42] For an overview of the evolution of co-operation between the Rhine riparians, see, e.g. Irmer and Vogt (2001), 127-136.

[43] This Directive has been significantly amended on several occasions, and was recently codified as Directive 2006/11/EC of the European Parliament and of the Council, of 15 February 2006, OJ L 64, 52-59, 4.3.2006.

action: all plants processing Rhine water for drinking were shut down, fishing in the river was banned and sluices and locks were closed to stop polluted water from contaminating estuaries, streams and underground watercourses.

The issue of Swiss state responsibility has never been raised and all claims for damages were resolved at the private level.[44] Not only did Sandoz settle the question of damages directly with the victims, but it also agreed to fund a measuring station on the river, a station to alert the populations and inform border towns, and to contribute to the restoration of the Rhine ecosystem.

After the accident at the Sandoz plant, the riparian States decided to improve the emergency warning and alert system and to elaborate a strict liability regime to resolve the problem of compensating the victims, and to set up a 'Program for Action' in three stages aimed at improving the river water quality. In 1998, the parties concluded the Convention on the Protection of the Rhine, the scope of which is more comprehensive than previous agreements. On the issue of emergencies, it provides for the obligation to reduce the risk of pollution from incidents or accidents and to take the requisite measures in the event of an emergency (Article 4(e)). There is in particular an obligation immediately to inform the Commission and the other States liable to be affected, in accordance with the warning and alert plans coordinated by the Commission, in the event of incidents or accidents that might threaten the quality of the water of the Rhine or in the event of imminent flooding (Article 5(6)).

6.2.4.2 The Baia Mare and Baia Borsa Accidents

A more recent example of breaches of the obligation to notify in emergencies in a timely fashion is the sequence of cyanide and mineral waste spills from Romanian mines into the Danube catchment area.[45]

On 30 January 2000 at about 10 p.m., approximately 100,000 cubic meters of liquid and suspended waste containing about 50 to 100 tons of cyanide, a leeching agent used to extract gold, as well as copper and other heavy metals,

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[44] On the liability aspects of the accident, see, e.g. Oliveira (1991).

[45] For extensive information on these accidents, see the websites http://www.mineralresourcesforum.org/incidents/BaiaMare/#UNEP/OCHA and http://www.zpok.hu/cyanide/baiamare/index.htm (last visited on 15.5.2007).

were spilled from a Romanian gold smelter at Baia Mare, Romania, into the rivers Sasar, Somes and the adjacent Lapus River. The toxic spillage then crossed the border into Hungary, and reached the Tisza River, a tributary of the Danube, and one of eastern Europe's largest and formerly cleanest rivers. The cyanide was carried downstream to the river Danube in Yugoslavia, and continued through the Romanian-Bulgarian frontier until it reached the Danube delta four weeks later.

The cause for the spill was a combination of heavy rains and rapidly melting snows, and a new poorly-designed tailings dam at the gold mine which ruptured and for four days released contaminated water.[46]

The 1994 Danube Convention provides for an early warning system and prescribes that when a sudden increase of hazardous substances in the Danube river or in waters within its catchment area is identified, the Principal International Alert Centers (PIAC) in case of accidental pollution on the Danube River and the International Commission should be informed immediately (Article 16(3)). Yet, approximately ten hours were lost for unknown reasons between the time the local Environmental Protection Agency Baia Mare (EPA) received notification of the spill from the mining company and the time the local Romanian Waters Authority was informed. Once informed, however, the regional environment and water authorities immediately acted and ordered the company to stop activities and close the breakage. They also informed Hungary about the accident 17 hours after it occurred, and alerted local authorities downstream about the spill and dangers in using the river water. Local residents near the source of the spill were not informed as early as possible.

The UNEP mission which analysed the accident found that the early warning system responded adequately to the spill. Hungarian authorities confirmed that they were continuously informed by Romanian authorities about the event and the degree of pollution. This allowed them to alert all regional and local authorities in a timely manner and to take the necessary measures to minimise the impact of the spill. The UNEP mission concluded that timely information

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[46] For more details, see, e.g. *Report on the Cyanide Spill at Baia Mare, Romania*, March 2000, prepared by the Assessment Mission of UNEP/Office for the Co-ordination of Humanitarian Affairs (OCHA), at http://www.mineralresourcesforum.org/incidents/BaiaMare/docs/final_report.pdf, or its summary at http://www.rec.org/REC/Publications/CyanideSpill/ENGCyanide.pdf (last visited on 15.5.2007).

exchange and measures taken by the Romanian, Hungarian and Yugoslavian authorities, including a temporary closure of the Tisza lake dam, reduced the impact of the spill. The estimates of the degree of biological damage and recovery given by the authorities and experts are, however, very variable.

There were several subsequent accidents. On 7 February Romanian authorities alerted the Hungarian public by reporting a second spill of cyanide. On 10 March, after a dyke burst in the Baia Borsa mine of northern Romania a spill of around 20,000 tons of mineral waste polluted the Vaser River, a tributary of the Tisza river, flowing in Ukraine and through Hungary. On 14 March 2000 another dam failure occurred at the Baia Borsa heavy metal mine. Hungary did not receive any early notification from Romania.

The EU task force which assessed the damage concluded that existing accident plans for emergencies and measures taken by the company and local authorities were insufficient and inadequate, considering the large amount of hazardous materials used close to populations and the river system. Hence, the Romanian State violated both the obligation to notify in emergencies as well as the substantive obligation to prevent, mitigate or eliminate harm. These international accidents, with potential long-term effects for the population and environment, highlight the need for a prompt early warning system and an effective emergency prevention and response planning, which includes the timely notification of potentially affected States.

Hungary claimed liability against the Australian mining company for the damage caused by the January cyanide spill.[47] It claimed the spill killed 1,241 tons of fish in Hungary alone and that it was the worst case of pollution in the region since the 1986 Chernobyl nuclear accident in Ukraine. The claim for compensation included the costs of averting immediate damage, damage assessment costs, long-term losses in the area's wildlife, expected rehabilitation costs and further economic disadvantage due to the damage. It seems possible that Hungary has also considered starting proceedings against the Romanian partner in the joint venture and the Romanian State for compensation.

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[47] E.g., The Sydney Morning Herald, of 11 July 2000.

Subsequent to the Sandoz and the Chernobyl accidents, European States recognised the need to regulate international liability in case of accidents and concluded some regional treaties on the subject.[48] In addition, in the aftermath of the accidents in Romania, the Commission of the European Communities has pushed ahead with its plans to introduce a strict liability regime for environmental damage caused by hazardous activities based on the polluter pays principle.[49]

6.2.5 Damage, Liability, and Forms of Reparation

The ILC worked on the topic of Responsibility of States for Internationally Wrongful Acts for about 45 years and in 2001 adopted a set of Articles, at its fifty-third session, together with commentaries.[50] These Articles codify the law on the subject and it is thus the most useful set of articles reflecting the current state of the law.

The elements of liability that need to be present for the purposes of reparation are the internationally wrongful act, the existence of injury, which includes any material or moral damage, and causation.[51] The obligation to make full reparation arises to a State when all the conditions for responsibility are met and there are no circumstances excluding it.

The rules of state responsibility help in measuring the degree of diligence of the State's conduct,[52] and consequently the level of compensation that might have to be paid. But the conduct of the affected State may also be relevant for determining liability.[53] The contribution to the injury by the injured State or

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[48] See *infra* s.6.3.1. On the impact of the Chernobyl accident on the States' perception of international responsibility for transboundary damage, see Politi (1991).

[49] In particular, Directive 2004/35/CE, of 21 April 2004, on environmental liability with regard to the prevention and remedying of environmental damage. See *infra* s.6.3.1.

See also the Commission staff working paper – Liability and Redress Regimes in Multilateral Environmental Agreements (MEAs), SEC/2006/1131 final, available at http://eur-lex.europa.eu/

[50] Due to the importance of the topic, the ILC recommended to the UNGA that it consider the possibility of convening an international conference of plenipotentiaries to examine the articles with a view to adopting a convention.

[51] See Article 31 of the 2001 ILC Articles on State Responsibility.

[52] Okowa (1996), 332-3.

[53] See Article 39 of the 2001 ILC Articles on State Responsibility.

other person or entity, although it does not preclude wrongfulness, is relevant for determining the form and extent of reparation. This may be illustrated by the case where a State is notified immediately of an emergency, such as the break of a dam upstream, but takes inadequate measures to minimise the damage, aggravating it instead.

Several remedies are available to States for conduct in violation of an international obligation by another State. In the case of a breach of a treaty rule, the responsibility arises irrespective of this being expressly provided for in the treaty. A party or parties to a treaty may be entitled to terminate or withdraw from it or suspend its operation in the event of a material breach.[54] A 'material breach' consists of a repudiation of the treaty not sanctioned by the 1969 Vienna Convention on the Law of Treaties, or the violation of a provision essential to the accomplishment of the object and purpose of the treaty,[55] and it includes *a fortiori* a fundamental breach, i.e., 'one which goes to the root of the treaty'.[56]

In addition, the wronged State may ask for the cessation of the wrongful conduct and assurances and guarantees that the conduct concerned will not be repeated. The injuring State is then obliged to adopt measures to prevent the recurrence of the breach. In practice, this is usually a question of insisting on the performance of the obligation or of resumption of appropriate conduct. It is not merely a matter of illegality but also of concrete harm caused to the legal interest of the claimant State giving rise to a claim of reparation or of the right to make a claim. Even if the claim is not actually made, this right is usually asserted in a formal note of protest.[57]

The forms of reparation or counter-measures used for cases involving international watercourses are those generally used in other areas of international law. The claimant State may carry out retorsion, i.e., a penalty which does not entail any unlawful measure, e.g., a decision not to offer financial help. It may also seek satisfaction through a formal apology, nominal

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[54] See Articles 60(1) and (2) of the 1969 Vienna Convention on the Law of Treaties concerning the material breach of a bilateral or multilateral treaty, respectively.

[55] See Article 60(3) of the 1969 Vienna Convention on the Law of Treaties. The determination of the breach obviously depends on the circumstances of the case.

[56] Aust (2000), 239.

[57] Brownlie (1983), 22.

compensation or an expression of regret, usually in addition to other remedy in the case of a breach of a treaty rule.

The injured State is also entitled to ask, when possible, for restitution (*restitutio in integrum*). The ICJ in the *Gabčíkovo Nagymaros Project* case, quoting the PCIJ's Judgment of 13 September 1928 in the *Chorzow Factory* case, explained that 'reparation must, as far as possible, wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed'.[58] In this case, the Court considered that consequences of the wrongful acts of both Parties would be wiped out 'as far as possible' if they would resume co-operation in the utilisation of the shared water resources of the Danube, and if the multi-purpose programme, in the form of a co-ordinated single unit, for the use, development and protection of the watercourse was implemented in an equitable and reasonable manner (para. 150).

This leads us to the most common remedy in cases of transboundary damage. As a form of reparation, the payment of compensation, including interest, corresponds to a financial assessment of the wrong done. It is thus associated with actual damage to property and persons.

In the *Gabčíkovo Nagymaros Project* case, both States claimed to have suffered considerable financial losses and both claimed pecuniary compensation for them. The ICJ found that since both Parties committed internationally wrongful acts, which gave rise to the damage sustained by the Parties,[59] Hungary and Slovakia were both under an obligation to pay compensation and were both entitled to obtain compensation. However, due to the fact that there had been intersecting wrongs by both Parties, the Court observed that the issue of compensation could satisfactorily be resolved in the framework of an overall settlement if each of the Parties were to renounce or cancel all financial claims and counter-claims (para. 153).

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[58] PCIJ, Series A, No.17, 47. The concept of restitution is not uniformly defined. Article 35 of the 2001 ILC Articles on State Responsibility defines restitution as the re-establishment of the situation which existed *before* the wrongful act was committed, that is, the *status quo ante*. For an explanation for the use of this norrower definition, see Crawford (2002), 213-7. Article 35 specifies that this obligation exists when it is not materially impossible and does not involve a burden out of all proportion to the benefit deriving from restitution instead of compensation.

[59] Sohnle criticises the ICJ for basing its decision on the classic concept of damage rather than broadening its scope to include 'ecological damage', which is related to risk. See Sohnle (2002), 359.

Finally, the wronged State may respond to a material breach of a treaty rule by not complying with one or more of its obligations under the treaty.[60] In fact, 'an otherwise unlawful act loses its unlawful character when it is taken in response to an unlawful act'.[61] The diversion of the Danube by Slovakia may be deemed a countermeasure to the suspension of works by Hungary. But the ICJ asserted that Hungary had a right to an equitable part of the water resources of the Danube, and that the diversion by Slovakia did not respect the degree of proportionality that was required for it to be justifiable (para. 85).

6.2.6 Preventive Action before Damage

As mentioned above, liability arises from the existence of an internationally wrongful act, injury and causation. But what if damage has not, or not yet, occurred? What can or should a State do? For example, in the situation where a State has not notified other States of planned works which may affect those downstream, should the potentially affected States, after finding out about these plans, ask to be notified and be given information from the planning State regarding the project and ask to enter into consultations?

Potentially affected States often react by way of diplomatic action, for instance, a formal note of protest. In reality, the question here is not whether a State which has not yet suffered damage may act upon the circumstances, but rather if these could generate responsibility on the part of the planning State prior to, or irrespective of, the occurrence of actual damage when this is likely to occur.

In the case where the planning State does not react, the potentially affected State does not have to wait until damage actually occurs to bring proceedings before a court or arbitral tribunal because there is an obligation to prevent significant transboundary harm, such as in cases of hazardous activities, which are now increasingly covered by an objective régime.[62] A recent example

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[60] In the *Gabčíkovo-Nagymaros Project* case, the ICJ held that four conditions had to be met for countermeasures to be justified, see ICJ Reports, 7, at paras.82-7.

[61] Aust (2000), 303. See also Ch.II of the 2001 ILC Articles on State Responsibility, and in particular Article 52, which lays down the injured State's obligation to notify the responsible State of the decision to take countermeasures and to offer to negotiate.

[62] See *infra* s.6.3.

is the *Mox Plant* case brought by Ireland before ITLOS for provisional measures.[63]

Proceedings are more likely to be brought in the context of non-compliance with treaty obligations, such as the case brought by Argentina against Uruguay regarding the construction of two pulp mills.[64] Moreover, as happened in these two cases, the potentially affected State may also ask for provisional measures in the event of an imminent threat.

In case of a breach of an international obligation, such as the violation of a procedural obligation, there is often no direct proof of specific financial loss or this is very difficult to obtain. Although the violation is actionable, States usually seek some form of satisfaction. As with domestic legal systems, reparation may be sought or awarded for 'political' or 'moral' injury.

Under EC law, the mere violation of a Community law rule is often sufficient to allow standing before the ECJ, and it is not necessary to demonstrate that the claimant suffered damage. A Member State may bring an action to the ECJ pursuant to Article 227 of the EC Treaty in the event of another Member State not fulfilling its obligations.

In different situations directly affected States have protested for not having been notified nor consulted and have asserted this right, which has been increasingly honoured by other States as they decide on how to proceed.[65] This was the case of the GAP Project on the Euphrates and Tigris Rivers, where after protest from Syria and threats from Iraq, Turkey agreed to provide information on the project, as well as with the Itaipú dam on the Paraná River, the most important river in the Prata system, where Argentina protested and diplomatic relations with Brazil and Paraguay were strained for some time.[66]

In both cases, the defaulting States have not ignored protest but have rejected the claim and have denied the breach of any obligation. They affirmed their right to act unilaterally and, according to them, their reason for providing

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[63] See *supra* s.6.2.3.2.

[64] See *supra* s.3.2.6.6.

[65] Kirgis (1983), 375.

[66] See *supra* s.4.1.1. For the Itaipú case, see also s.1.3.1.

information and consulting was to conform to the principle of good neighbourliness and to contribute to maintaining peace in the region. In addition, Brazil counter-argued that the obligation of prior notification and to consult prior to final decisions were made and the project implemented would call into question the State's sovereignty over its natural resources. Brazil nevertheless repeatedly recognised the obligation not to cause significant harm.

Subsequent developments were different in the two examples. In the GAP Project case, there were no negotiations between the States involved and damage may continue to occur today. But with the Itaipú case, after a long and complicated diplomatic and negotiating history, the three States concluded the 1979 Tripartite Agreement on Paraná River Projects, which integrates the different dam projects on the Paraná River as well as navigation. This is despite the fact that the 1973 Treaty of Itaipú, concluded between Brazil and Paraguay to regulate the Itaipú project, had been in force and the construction of the dam had already begun.[67]

In practical terms, since the Itaipú project, once implemented, was not likely to be removed, this meant that Brazil was considering not complying with the obligation not to cause significant harm but to provide compensation for the damage caused. This in essence means that although Brazil recognised the obligation, it would not respect the prevention aspect but would accept liability for any injury caused.

The tripartite agreement seems to have been concluded because of official protest from another riparian and its legal arguments. Since there are many interests at stake and there is a need for co-operation on other basins by entering into subsequent agreements, States recognise the need to maintain good neighbourly relations. Thus, protest may lead directly to negotiations, rather than consultations,[68] and eventually perhaps also to payment of an indemnity.

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[67] The 1973 Treaty of Itaipu creates Itaipu Binacional, a binational power facility in charge of the construction and operation of the power plant. Itaipu Binacional commenced its work on 17 May 1974, and the hydro-electric power plant was officially inaugurated on 25 October 1984.

[68] For the difference between consultations and negotiations, see *supra* s.4.5.1.

Some authors have drawn a parallel between the Harmon Doctrine and Brazil's constant objection to the existence of these procedural rules.[69] But Brazil, although still not recognising these obligations, voted in favour of the 1997 UN Watercourses Convention, like Uruguay, while Argentina, Bolivia and Paraguay abstained.

It may also be argued that Brazil, by negotiating with Argentina after the protest, and concluding a treaty, recognised implicitly the obligation to notify. Here protest seemed to have a vital importance, because it triggered the initiation of the process of negotiation. But Brazil has arguably acted consistently in its position in relation to procedural obligations, and thus in the context of emerging rules of customary law may claim to be a persistent objector. The fact that it entered into agreements after protest does not necessarily mean that it implicitly recognised those rules as compulsory.

6.2.7 Circumstances Excluding Responsibility

There are circumstances which may exclude the responsibility of States for breach of an international obligation and thus from the need for reparation. They are exceptional by nature and provide a justification or excuse for non-compliance so long as the circumstance in question subsists.[70] As soon as the factors causing the non-performance cease to exist, the duty to comply with the obligation resumes.[71] These circumstances include *force majeure* or Act of God,[72] for example natural catastrophes, such as floods and earthquakes, or those caused by human action, such as armed conflict or strikes.

Necessity is another excuse recognised by customary international law and thus excluding responsibility.[73] It consists of circumstances where the only means for a State to 'safeguard an essential interest threatened by a grave and

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[69] E.g. McCaffrey (2001), 265.

[70] Crawford (2002), 160.

[71] Unless they have led to a fundamental change of circumstances that would excuse further performance indefinitely.

[72] See Article 23 of the 2001 ILC Articles on State Responsibility.

[73] Article 25 of the 2001 ILC Articles on State Responsibility defines the conditions that must be cumulatively satisfied.

imminent peril is, for the time being, not to perform some other international obligation of lesser weight or urgency'.[74]

In the *Gabčíkovo-Nagymaros Project* case,[75] the ICJ did not consider that the 'state of ecological necessity' invoked by Hungary justified the suspension and abandonment of the works agreed to under the 1977 Treaty (para. 40). The Court did consider that an 'essential interest' of the State had been affected by the project, namely its natural environment. But after analysing the particular situation, the Court found that the elements of 'grave and imminent peril' alleged by Hungary were not present (paras. 52-7). It further added that Hungary based its arguments on *uncertainties* as to the ecological impact of the barrage system. The Court observed that, even if a state of necessity was found to exist, it was not a ground for the termination of a treaty. It could only be invoked to exonerate from its responsibility a State which had failed to implement a treaty (para. 101). The Court also held that Hungary could have acted differently in order to protect its interest, since the initial project also gave it some control over the allocation of water. Thus, Hungary had also contributed to the alleged state of necessity and thus could not now rely on it (para. 56 *in fine* and 57).

Other circumstances arising from the action of the affected State may exclude its responsibility. These include consent for the injury, as well as self-defence and lawful countermeasures.[76] States may agree to exclude responsibility,[77] for example by providing for the payment of an amount prior to the conclusion of works by way of compensation.[78]

None of these justifications exempt States from the obligation to co-operate, in particular to notify, and to mitigate or eliminate harm, in emergencies.

There are, however, two cases in which failure to co-operate between States is provided for in the 1997 UN Watercourses Convention.

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[74] Crawford (2002), 178.

[75] See *supra* s.3.2.6.5.

[76] See Articles 20 to 22 of the 2001 ILC Articles on State Responsibility.

[77] See Article 20 of the 2001 ILC Articles on State Responsibility, and, e.g. Article 23 of the 1956 Rhine Convention between France and Germany and Article 1 of the Additional Protocol.

[78] See, e.g. Article 1 of the Additional Protocol between USSR and Finland to the 1959 Lake Inari Agreement.

One case relates to the exceptional circumstances where there is no direct contact between the States. Article 30 of the 1997 UN Watercourses Convention, concerning indirect procedures, applies in cases where there are 'serious obstacles to direct contacts between watercourse States', e.g. where parties do not maintain diplomatic relations or are in armed conflict.[79]

The second case is foreseen in Article 31 of the Convention, which sets forth an exception to the obligation of provision of data and information in the cases where these are 'vital to national defence or security'. To avoid a situation where the potentially affected State would 'be left entirely without information' concerning possible adverse effects,[80] Article 31 qualifies this exception by providing that States have an obligation to co-operate in good faith 'with a view to providing as much information as possible under the circumstances'. This Article intends, in fact, to achieve a balance between the need for confidentiality of sensitive information, on the one hand, and the need for information concerning potential adverse effects of planned measures, on the other.[81] It should be pointed out that, unless there is a state of necessity, States may not invoke this exception in the event of a breach of the principles of equitable and reasonable utilisation or of prevention of significant transboundary harm.

Principle 6(2) of 1978 UNEP Principles on Shared Natural Resources has a more general scope. It states that

> In cases where the transmission of certain information is prevented by national legislation or international conventions, the State or States withholding such information shall nevertheless, on the basis, in particular, of the principle of good faith and in the spirit of good neighbourliness, co-operate with the other interested State or States with the aim of finding a satisfactory solution.

The first part in particular led to Article 8 of the 1992 Helsinki Watercourses Convention, which also provides an exception for the protection of information. But it goes further by specifying the type of information excepted, that is,

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[79] See *infra* s.4.3.1.6.

[80] Article 31, comm., of the 1994 ILC Draft Articles.

[81] Idem.

information related to intellectual property, including industrial and commercial secrecy, or national security. This exception was included and developed in subsequent treaties.[82]

6.3 Strict Responsibility

Objective or strict responsibility is based on the doctrine of the voluntary act, i.e., 'provided that agency and causal connection are established, there is a breach of duty by result alone'.[83] It characterizes only some special régimes, such as those of licit activities that carry serious risks by their own nature of causing some damage to the territory of other States or to their environment.

The purpose of special régimes is to protect the potential affected persons or States from the hazards of industries and to facilitate their right of reparation, since often it is very difficult for the claimant to obtain evidence of fault. The basis for compensation lies not on the fault or negligence of the State but on risk. Nonetheless, if negligence or fault is proved as well as causation, then the general régime of responsibility applies.

Hazardous activities imply an obligation of due diligence. In contrast to responsibility for wrongful acts, it is the result, the damage caused, and not the State's conduct, that engages its international responsibility. As to the damage caused, it is the causation from a hazardous activity that is relevant. Hence, the burden of proving fault does not lie with the claimant. Moreover, there are very few justifications. Even if the person solely responsible for the damage is a private person, the State has residual responsibility, that is, it has to ensure full payment of compensation in case the amount paid by the private person's insurance is insufficient.

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[82] See, e.g. Articles 12(5) and (6), and 13 of the 1994 Danube Convention.

[83] Brownlie (1983), 38.

6.3.1 International Water-related Treaties Providing for a Special Régime

As to international water resources, it is the general régime that usually applies, despite attempts to create a special régime of strict responsibility for the protection of freshwater against accidental pollution. When important economic interests are at stake, States are very reluctant to accept a régime of *prima facie* liability, where fault and negligence do not need to be proven.

In 1979 the IDI proposed in Article VI(b) of its Athens Resolution on Pollution that,

> With a view to ensuring an effective system of prevention and of compensation for victims of transboundary pollution, States should conclude international conventions concerning in particular:
> ...
> (b) the procedure for special arrangements providing in particular for objective liability systems and compensation funds with regard to pollution brought about by ultrahazardous activities.

If created, the régime would be applicable in relation to dangerous activities and damage caused to the environment. These would include nuclear accidents; pollution from hydrocarbons; highly toxic substances or radioactive waste; or the deposit of chemical or bacteriological weapons in the vicinity of water resources.

In Europe, some regional international instruments providing for a strict liability régime have been adopted. Once implemented, such a régime has the effect of implementing international responsibility in domestic law, and sets up a direct legal relationship between the injured State and the natural or legal person under the injuring State's jurisdiction.

In line with the purpose of the IDI, but with wider scope, the Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment was elaborated in the ambit of the Council of Europe and signed at Lugano in 1993. This regional convention imposes a strict liability régime for dangerous activities or substances on the operator of the activity concerned, or in the case of permanently deposited waste, on the operator of the site. The

Convention does not set a financial limit of liability. Recovery is assured by compulsory insurance or other financial security.

Although this Convention only requires three ratifications to enter into force, only Portugal has so far ratified. This is easily explained. Portugal is a downstream State in relation to five river basins shared with Spain,[84] its sole neighbour, and it does not have any nuclear power plant.

In the ambit of UNECE, 22 of the State Parties to the 1992 Helsinki Watercourses Convention and the 1992 Industrial Accidents Convention have adopted in Kiev, on 21 May 2003, the Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary States. As with other instruments concluded within ECE, any other UN Member State may accede to the Protocol. The agreement was drafted taking into account the experience with other international civil liability instruments which have failed to enter into force. The Protocol is not yet in force.[85]

The objective of the Protocol is 'to provide for a comprehensive regime for civil liability and for adequate and prompt compensation for damage caused by the transboundary effects of industrial accidents on transboundary waters' (Article 1). It provides a régime combining strict liability and fault-based liability.

The individuals affected by the transboundary impact of industrial accidents on international watercourses, such as fishermen or owners of downstream waterworks, are given a legal right to adequate and prompt compensation. Companies are liable for accidents at industrial installations, including tailing dams – such as the Romanian spill accidents[86] –, and during transport through pipelines. The Protocol covers physical damage, damage to property, loss of income, the cost of reinstatement and response measures. In contrast to the 1993 CE Lugano Convention, it sets financial limits of liability depending on the risk of the activity (Article 9 and Annex II, Part 1), i.e. the quantities of the hazardous substances that are or may be present and their toxicity or the risk they pose to the environment. In addition, it sets minimum limits of financial

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[84] Except for a short stretch of the River Guadiana in the south.

[85] It requires 16 ratifications, but so far only Hungary has ratified it.

[86] See *supra* s.6.2.4.

securities which operators have to establish to cover this liability. These consist of insurance, bonds or other guarantees, including financial mechanisms providing compensation in the event of insolvency (Article 11 and Annex II, Part 2). The financial limits of liability and the minimum amount of financial securities have been agreed by all the interested parties, including the insurance sector, and aim at being 'realistic and appropriate'.

In context of the European Union, Member States have to implement Directive 2004/35/EC of the European Parliament and of the Council, of 21 April 2004, on environmental liability with regard to the prevention and remedying of environmental damage.[87] This directive provides for a strict liability regime for environmental damage caused by certain activities based on the polluter pays principle. It does not, however, give private parties a right of compensation as a consequence of environmental damage or of an imminent threat of such damage. Its sets out preventive and remedial action in case of environmental damage or any imminent threat of such damage caused by any of the occupational activities listed in Annex III, as well as damage or any imminent threat of such damage to protected species and natural habitats caused by other occupational activities whenever the operator has been at fault or negligent. Member States may maintain or adopt more stringent provisions in relation to the prevention and remedying of environmental damage, including the identification of additional activities and of additional responsible parties (Article 16).

As with other international instruments providing for preventive or remedial action, Article 15 lays down the obligation to co-operate between Member States where environmental damage affects or is likely to affect several Member States, including through the appropriate exchange of information. In addition, where environmental damage has occurred, the Member State in whose territory the damage originates must provide sufficient information to the potentially affected Member States.

The forms of reparation used in the general régimes are not always suitable in the case of strict liability régimes, and some alternative systems have been used. The most common form of reparation, *restitutio in integrum*, is not

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[87] OJ L 143, 30.4.2004, p.56-75.

applicable since it is usually difficult to stop the dangerous activity from proceeding. What is sought from this régime is to reduce the negative effects by compensating the injured. In contrast to the general régime, the cause of damage remains. It may be considered a rough form of reparation by equivalent.

6.3.2 The Work of the ILC: Prevention and International Liability from Transboundary Harm Caused by Hazardous Activities

In 2001, the ILC concluded its work on the Prevention of Transboundary Harm from Hazardous Activities with a set of 19 draft articles. This work was done in the context of the international liability for injurious consequences arising out of acts not prohibited by international law, which also includes the Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities, concluded in 2006. This is because the objective of liability régimes is generally two-fold: to prevent damage from occurring, on the one hand, and if damage has nevertheless occurred, to ensure that the original situation is restored and victims compensated.

The ILC recommended the UNGA to elaborate a convention based on the draft articles. These concern the taking of preventive measures in respect of activities not prohibited by international law which involve a risk of causing significant transboundary harm through their physical consequences. The activities covered include works on a river basin, such as dams, or power plants.

The draft articles prescribe the obligation to co-operate (Article 4) and the procedural obligations included in the 1997 UN Watercourses Convention adapted to include other type of circumstances. These include the obligation to notify risk and assessment (Article 8), including in emergencies (Article 17), the obligation to enter into consultations on preventive measures (Article 9) and to exchange information concerning the activity (Article 12). But it goes further and specifically requires impact assessments, including environmental impact assessments (Article 7). It also sets out the obligation from the operator of the activity to obtain prior authorization from the State in the territory or under the jurisdiction or control of which the activity is planned or is carried out (Article 6).

As a régime of prevention which would be – as it was – eventually followed by work on the allocation of loss, it does not provide any article dealing specifically with the issue of responsibility for the breach of the obligations it lays down. What followed, however, was a set of principles. These are general and residual in character as well as being non-binding. The work of the ILC in this field is clearly intended to develop international law, and to provide guidance to States in respect of hazardous activities not covered by specific agreements. It suggests matters that should be dealt with in such agreements. Once again, while not addressing the issue of state responsibility for the breach of procedural obligations, the ILC implicitly endorses in this context the general state responsibility régime it had previously codified.

The Principles aim at ensuring prompt and adequate compensation to victims of transboundary damage, and preserving and protecting the environment in the event of transboundary damage, 'especially with respect to mitigation of damage to the environment and its restoration and reinstatement' (Principle 3).

States 'should' ensure that domestic legal systems provide for a strict liability régime regarding hazardous activities located within their territory or under their jurisdiction or control (Principle 4(2)), and that their judicial and administrative bodies have prompt, adequate and effective remedies available in the event of transboundary damage (Principle 6(1)). Although the residual responsibility of States is not directly spelt out, Principle 4(5) stipulates that States should ensure that sufficient financial resources are available for the payment of adequate compensation.

Once again, procedural obligations as response measures are set out in Principle 5. They become applicable upon the occurrence of an 'incident' involving a hazardous activity which results or is likely to result in transboundary damage. These include the obligation to notify, to consult with and 'seek the co-operation of all States affected or likely to be affected' to mitigate and eliminate the damage. Modelled on Article 28 of the 1997 UN Watercourses Convention, Principle 5(e) provides for assistance from competent international organizations and other States.

In Conclusion

Identification and Application of the Principle of Co-operation: Evolution and Consolidation

The whole problem with the world is that fools and fanatics
are always so certain of themselves,
but wiser people so full of doubts.
Bertrand Russell

Sharing the waters of international watercourses is inevitable. Although States' permanent sovereignty over all their natural resources is a generally accepted and constantly repeated principle, sovereignty is limited by the principle of equitable and reasonable utilisation and by the principle of diligent prevention of significant transboundary harm. States are positioned differently in relation to the watercourse, and their activities may in consequence cause different kinds of impact elsewhere in the basin. Moreover, since the geographical characteristics of river basins, as well as the social and economic needs of States differ, so does the precise meaning of any State's entitlement to equitable and reasonable use of the waters of the international watercourse.

The complex determination of the equitable and reasonable use requires the weighing of several relevant factors, which should include, among others, the geographical, hydrographic, hydrological, climatic, ecological, and other factors of a natural character, as well as the effects of the use or uses on the other co-riparian States. Thus, the practical application of these general principles demands a sophisticated level of co-operation. It requires States to take into account the interests of neighbouring riparian States, thus calling for compromise of rights and interests by all. Yet, States may develop the river basin in their territory independently.

The theory of limited territorial sovereignty or integrity has acquired the largest support in state practice on sharing of water resources, bilateral treaties,

multilateral conventions, and decisions of both domestic and international courts and tribunals. However, the theory of 'community of interests', also known as the doctrine of common management, is steadily gaining support at the international level. It aims at obtaining an optimum utilisation of the water resources of the river basin in its entirety by using an integrated and joint management approach. In practical terms, this is a very ambitious project as it involves a very intensive level of co-operation. For instance, further to the procedural obligations indispensable for the implementation of the substantive principles, such as the obligation to notify planned works, it requires the establishment of an institutional framework.

The law of international watercourses has evolved in order to settle water disputes peacefully and to set the framework for co-operative alternative solutions. Indeed, the history of projects, negotiations and disputes proves that water is more likely to lead to international co-operation than to conflict.

In this context, the principle of co-operation has been of fundamental importance. It has been affirmed in conventions, treaties and declarations, in international decisions, relied on by States, and incorporated in national laws and decision-making practices. It has continuously been a dynamic source of other rules of international law. Its repeated use in international instruments demonstrates that States recognize co-operation as a basis for other obligations. This is evidenced by the multiple forms and levels of co-operation in the practice of States, given precision and procedures in countless treaties.

In the nineteenth century, most of the treaties on international watercourses were primarily concerned with navigation and fishing. Subsequently, treaties sought to control other specific uses, such as irrigation, hydro-electric power generation, flood control, or prevention of pollution. If other water uses were mentioned in the treaty, they were regulated only by reference to the principal purpose of that treaty.

Recently, an increasing number of treaties have been shifting the focus from the mere allocation of waters or the regulation of one specific use to an integrated management approach and the establishment of joint commissions with wider powers and functions. States recognize that in this way they may attain the optimal utilisation of the shared water resources and maximize the

benefits derived from them, while at the same time they may better protect and preserve the river environment. In fact, recent treaties demonstrate a trend towards the conclusion of further and more comprehensive agreements between basin States, and the adoption of more detailed rules regarding procedures and co-operative action within a joint institutional mechanism or commission. They reveal multiple forms of co-operative action steadily becoming more intensive. Therefore, the development of international water resources has now become less limited by the artificial frontiers imposed by territorial sovereignty.

There have been several attempts at codification of the law of international watercourses over the past fifty years, and some regional and universal conventions have been concluded. Yet specific geographic conditions and water uses have continued to encourage and indeed to require particular international agreements to adjust the international framework of these multilateral conventions to each particular case. This has led to significant treaty practice in the field.

Nevertheless, many international watercourses are still not governed by specific treaties. In effect, the river basins most likely to generate tension between riparians are those where there is no agreement governing the allocation of water among all basin States. Examples of such situations of potential conflict include the basins of the Ganges-Brahmaputra-Meghna, the Jordan-Yarmouk, and the Tigris-Euphrates, where boundary disputes still exist. Without treaties regulating their relations concerning the transboundary resource, the States affected must rely instead on existing customary international law and multilateral conventions, and on occasional *ad hoc* unofficial arrangements.

Under international law, the practical application of customary international rules, and adherence to general principles, is more significant than any expression of acceptance in international documents. Co-operation, being an obligation of conduct, derives from the substantive obligations as clearly evidenced by relevant international instruments and decisions as well as by other forms of state practice. It may be concluded that there is a body of authority that provides support for the proposition that States have a general obligation to co-operate with co-riparians regarding shared international watercourses. But the problem with this obligation is that even if formally

binding it is somewhat *soft* in character because of the lack of precision as to what exactly is implied. This principle, by its nature, is manifested through procedural obligations. These include the obligation to exchange data and information regularly, the obligation to notify planned measures with possible adverse effects and to notify the existence or the threat of emergency situations, and the duties to enter into consultations and to negotiate concerning planned measures.

The 'Procedural Law of Co-operation'[1] has evolved significantly over the last few decades. Most procedural obligations developed from recommendations and rules of scholarly associations, and gained consistency through treaty practice.

International law requires the systematic exchange of data and information on the watercourse as a minimal form of co-operation. This obligation is provided in detail in some treaties, but in many other instances it is provided for in a programmatic way. In this case, even though acceptance of these provisions indicates the States willingness to comply with the obligation, they leave the door open for States to restrict the access to water data for political reasons.

In addition, the obligation to provide data and information on planned measures is implied in notification. This obligation of prior notice, qualified for the situations where the proposed measures may cause significant transboundary adverse effects, has evolved in state practice, and has been assisted by the World Bank policies and good practices. The strengthening of the requirement to notify reveals that international organisations may contribute significantly to the development of international law.

The obligations to enter into consultations and to negotiate in good faith concerning planned measures which may cause significant adverse effect have also evolved, almost *pari passu*. These obligations have been repeatedly affirmed in treaties and other international legal instruments, thus indicating an increasing willingness of States to have recourse to these procedural rules in order to avoid conflict.

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[1] Higgins (1994), 136.

From the examination of state practice, recommendations of conferences and resolutions of scholarly associations, and the studies of experts, it may be concluded that the obligation to co-operate in regard to international watercourses and its applications is better fulfilled through joint institutional mechanisms or commissions, as these are the most effective channels of ongoing communication between States. Although bilateral and multilateral water treaties continue to create these joint mechanisms or institutions, international law at present still falls short of requiring their establishment. States cannot be obliged to establish joint institutions for any purpose or in any form – even if their establishment is the best way to fulfil the international duty of co-operation.

Co-operation has nevertheless evolved not only in scope but also in the variety of participants dealing with water-related matters: public participation is increasing in decision-making at local, national and regional level. In addition, international organisations, which in the past have successfully contributed to the development of co-operation in different forms, have been actively involved with water issues, notably in the assessment of water resources, determining areas at risk, and investing in capacity-building worldwide.

Framework conventions, such as the 1992 UNECE Helsinki Watercourses Convention, of regional character, and the 1997 UN Watercourses Convention, of universal character, play an important rôle in providing model rules implementing the obligation to co-operate. The former has been successfully implemented in Europe and may serve as an example for other regions.

Although not yet in force, the importance of the 1997 UN Watercourses Convention should not be underestimated. It has undoubtedly served as a model for subsequent regional treaties, such as the 2000 Revised Protocol on Shared Watercourse Systems in the Southern African Development Community (SADC), as well as particular bilateral and multilateral treaties from different regions, such as the 2002 Incomaputo Tripartite Interim Agreement, or the 1995 Mekong River Agreement. These follow very closely the 1997 UN Watercourses Convention in their general terms and occasionally even through replicating detailed requirements.

Even if some of the provisions of the Convention are progressive development rather than codification of rules of customary international law, they indubitably serve as persuasive policy guidelines – also due to the fact that all States participated in the treaty's elaboration –, and assist in the interpretation of existing particular watercourse treaties in the context of specific controversies.

Similarly, the work of codification and progressive development of international water resources law carried out by international bodies, such as the ILC, and scholarly associations, such as the ILA, will remain an important source of guidance and reference for States, international organizations, local governments, and water professionals.

The breach of any one application of co-operation allows a State to claim the breach of the overall obligation of co-operation with legal and political consequences. Although the general rules of state responsibility usually apply, damage directly linked to the breach is often difficult to prove unless the breach leads to another breach of the rules on sharing of water resources. But non-co-operation or the failure to actively co-operate may prove to be detrimental to the national interests of the basin State: defaulting on its duties, the cost of lengthy proceedings and the deterioration of political relations have to be considered, as well as possible forms of reparation. Moreover, with increasing international support for the integrated and joint management approach, more basin States from all regions recognise the advantages of co-operation and enter into particular treaties providing for more precise rules regarding co-operation. The rôle of general rules on responsibility is thus gradually narrowing as the field is occupied by specific and more easily enforceable rules.

As demonstrated in this thesis, the obligation to co-operate in the law of international watercourses has progressively evolved in its different applications and forms towards a more intensive level. States have consistently manifested in their international practice the will to improve co-operation with their co-riparian States. As in the past, most States today choose co-operation over conflict, and can see that co-operation is in their own long-term interest as well as that of the international community.

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